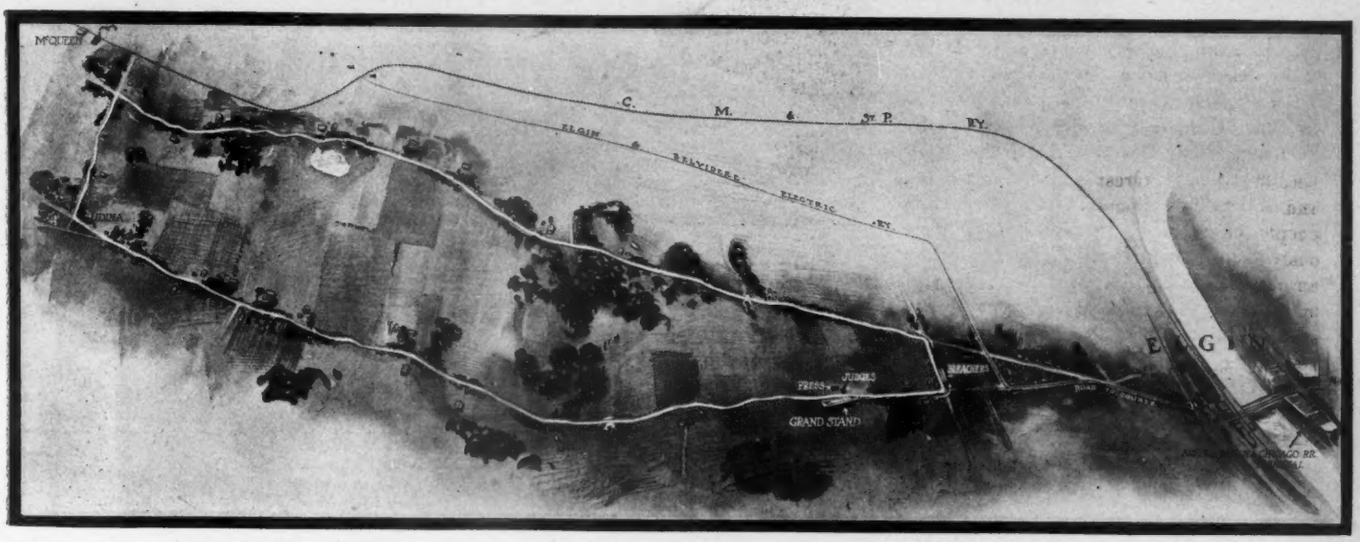
VOL. XVIII. No. 6 CHICAGO, AUGUST 11, 1910 $3.00 PER YEAR

MOTOR AGE

IMPOSING FIELD IN NATIONAL ROAD RACES



BIRDSEYE VIEW OF ELGIN COURSE ON WHICH NATIONAL STOCK CHASSIS ROAD RACES WILL BE RUN

CHICAGO, Aug. 10—In just 10 days more the entry list to the national stock chassis road races at Elgin will close and today there is every indication that by August 20 Chairman Harry T. Clinton, of the contest board of the Chicago Motor Club, will have in hand the nominations of at least forty cars distributed among four events ranging in the size of cars from the 161-230 class up to 600 inches. This prediction is made at a time when the local organization has in hand the entries of twenty-five cars and with the visible supply far from exhausted. There are ten cars entered for the big race of the meet, the Elgin National trophy event on the second day; seven for the Illinois

ON THE WEST LEG OF COURSE

ELGIN ROAD RACE ENTRIES

ELGIN NATIONAL TROPHY

Car	Driver
National	Greiner
National	Livingstone
Lozier	Mulford
Matheson	Not named
Alco	Grant
Marmon	Harroun
Marmon	Dawson
Cino	Not named
Marion	Not named
Kisselkar	Not named

ILLINOIS TROPHY

National	Greiner
National	Livingstone
Marmon	Not named
Falcar	Pearce
Falcar	Gelnaw
Marion	Monsen
Kisselkar	Not named

KANE COUNTY TROPHY

Marmon	Harroun
Marmon	Dawson
Cino	Not named
Kisselkar	Not named

FOX RIVER TROPHY

Ford	Kulick
Overland	Schillo
Cole	Endicott
Staver-Chicago	Cheney
Staver-Chicago	Monkmeier

SLIGHT RISE ON NORTH LEG

trophy, the 301-450 class on the first day; four in the Kane county, the 231-300 class, and five in the 161-230 Fox River trophy event. Surely no road race ever run before in this country has had such brilliant prospects 3 weeks before the running of the event.

The past week has seen the entry list jump from practically nothing to an astonishing total, for this time last week the club only had in hand five entries. By Friday of last week this had increased to twenty; then there came a let-up for a few days, and yesterday and today six more cars came in. There still are many to be heard from. The chances are good for there being at least one New York Simplex, while it may be possible George Robertson will come on to have a whirl at the big money in a second Simplex. The one that is assured, however, is owned by a Chicago man who is making the entry because of his interest in motoring events, and racing in particular. The Oldsmobile people are reported to be thinking seriously over the proposition, and no less an authority than W. J. Meade, general manager of the Olds Motor Works, has stated that if the workouts on the road now being given the 1911 model prove satisfactory that he will enter a six-cylinder and a four, one to be driven by Stillman and the other by Nelson, the latter formerly Chevrolet's mechanic. The Jackson entry seems certain at this writing, the company having written that it intends to be represented through its Chicago agent and that it will furnish the driver. Parry also is said to be a certain candidate and the blanks will be filled out for at least two cars from this concern before the end of the week. The Corbin has written that it will go in provided it can get its car ready, and that, too, is placed among the certain.

Since last week the entry list has been swelled by the addition of a Lozier, Matheson, two Cinos, five Marmons, three Kisselkars, two Falears, two Stavers, the Alco and two Marions. The Lozier is sending one of its 1911 models, a four-cylinder that will be driven by Ralph Mulford, while the Alco has nominated, by telegraph, Harry Grant, the winner of the last Vanderbilt cup race. These two entries have greatly strengthened the field in the Elgin National, which now brings together some of the best drivers in thecountry. The distance of the race is 300 miles, and among the pilots named are such celebrities as Harroun, Dawson, Grant and Mulford, all of whom are particularly strong in long-distancee running. Mulford has a 24-hour race record to his credit that is second to none in the world, he being one of the team that drove the Lozier when it established a record of 1,197 miles for the journey twice around the clock. Harroun easily has been the long-distance star of the year, his greatest feat being the winning of the famous Schebler trophy race at Indianapolis in May, while his team mate, Dawson, proved his long-distance ability at the July meeting at the Hoosier track, where he won not only the Cobe cup, but the Remy trophy as well. Grant won his spurs in the last Vanderbilt and he most effectively demonstrated that he well knows how to judge pace in a long-distance grind.

This, therefore, brings together in the Elgin National event the Lozier with Mulford driving; the Marmon, with Harroun and Dawson; two Nationals, one to be driven by Greiner, the amateur, and the other by Livingstone, the Pacific coast crack; Grant, in the Alco, and the Cino. Kissel and Marion, the drivers of which have not been named as yet In the Illi-

ON THE HOME STRETCH—LOOKING WEST FROM GRANDSTAND SITE

HARROUN INSPECTS THE COURSE

MOTOR CLUB OFFICIALS INSPECT TURN AT MCLEAN'S CORNERS

ON THE HOMESTRETCH—LOOKING EAST FROM FINISH LINE

F. W. JENCKS, PRESIDENT ELGIN ASSOCIATION

nois trophy race, the big event of the first day, there are listed at present two Nationals, a Marmon, a Kisselkar, two Falcars and a Marion. This event is for cars of from 301-450 cubic inches piston displacement. In the Kane county race for the 231-300 cars there are only four entries at present, two of them Marmons and the others a Cino and a Kissel. The Fox River event will bring together a lively field of small cars which includes at the present time a Ford, Overland, Cole and two Stavers. The Ford will be driven by Frank Kulick and the entry of this big Detroit concern is interpreted to mean that from now on Henry Ford will be a strong supporter of competitions, just as he was in earlier days of the sport. The Overland entry also is taken to mean that a recruit for racing has been secured. The three Kisselkars were entered today by the Chicago agent, Harry Branstetter, who has not as yet selected all of his three drivers.

While all this has been going on in Chicago there has been considerable activity at Elgin on the part of the Elgin Automobile Road Racing Association, which is co-operating with the Chicago Motor Club in the promotion of the national stock chassis road races. The Elginites have undertaken the task of furnishing a road-racing circuit that will be second to none in the country. There is no reason why they should not succeed, for they have all the natural advantages at hand in the circuit that is at their very doors. The course is located 1 mile from the very heart of Elgin and street car lines run almost to the eastern leg. The circuit as officially measured last week shows a distance of 8 miles 2,499 feet, and is further featured by having only four turns, all of which are easy to negotiate. The road itself will average 20 feet in width and at many places there is room for three cars to run abreast. The corners also are easy, and experts who have inspected them declare that the McQueen and Udina corners can be taken at the rate of 40 miles an hour. A slower pace will be necessary at the other two turns, which mark the beginning and ending of the hairpin, and here it will be necessary to cut down to 18 and 20 miles an hour. Officials of the Chicago Motor Club visited the course on Sunday and inspected the progress of the work that has been going on under the direct supervision of General Executive Charles P. Root. They found that the north and west legs were in the pink of condition, the roadbed being hard and wide, while the improvements that have been put on the west leg have converted a stretch of what formerly was nothing more than a country lane into a road that resembles a boulevard in width and smoothness. The only cause for worry now is the south leg, on which will be located the grand stand and the finishing line. The difficulty here has been that there has not been enough rain to assist the contractors in completing this stretch. In many places it has been necessary to scrape off the thank-you-ma'ams and to fill in holes with a mixture of gravel and clay. There having been no rains in this section for several weeks, this mixture has not bound and in consequence many soft spots are found along this stretch. However, the contractors have tackled this leg with all their energy this week and at the present time they are ready to give the entire circuit a coating of oil after they have watered it, the water being sprinkled on the road by artificial means if old Dame Nature does not come to their assistance. They also will follow up this by tamping the soft spots and using water and oil freely.

THE STEEPEST PART OF THE COURSE IS ONLY A SLIGHT GRADE

CARS LINED UP FOR THE START OF 200-MILE RACE ON THE GALVESTON BEACH

De Hymel in Stoddard-Dayton Car

GALVESTON, Tex., Aug. 3—The first day of the second annual meet on the Galveston beach speedway passed off auspiciously and successfully. Four events were pulled off this afternoon. There was not an accident, and the crowd of 12,000 people appeared pleased with the exhibition. The course, a 5-mile straightaway, was about 200 feet wide and hard and damp. It was very fast, and but for the fact that frequent turns were necessary, owing to the short course, better records would have been made. As it was Ben Johnson drove his six-cylinder Chadwick 50 miles in 42:56⅘, and Captain Munn, of Galveston, went 30 miles in his National 40 in 27:57⅗, winning that event. Captain Munn is president of the Texas State Automobile Association and is one of the leading amateur drivers in Texas. The crowd cheered him heartily each time he passed the grand stand. The course was well fenced and the policing was of the best. Summaries:

EVENT 1, 161 TO 230 CUBIC INCHES, CLASS B, 20 MILES

Car	Driver	Time
Buick	Henry Petit	21:42
Buick	George DeWitt	22:41
Stoddard-Dayton	De Hymel	

EVENT 2, 301 TO 450 CUBIC INCHES, CLASS B, 30 MILES

National	J. W. Munn	27:57⅗
National	H. F. Sundin	29:58⅘
Inter-State	Brinker	32:10
Moon	Wells	

EVENT 3, 231 TO 300 CUBIC INCHES, CLASS B, 20 MILES

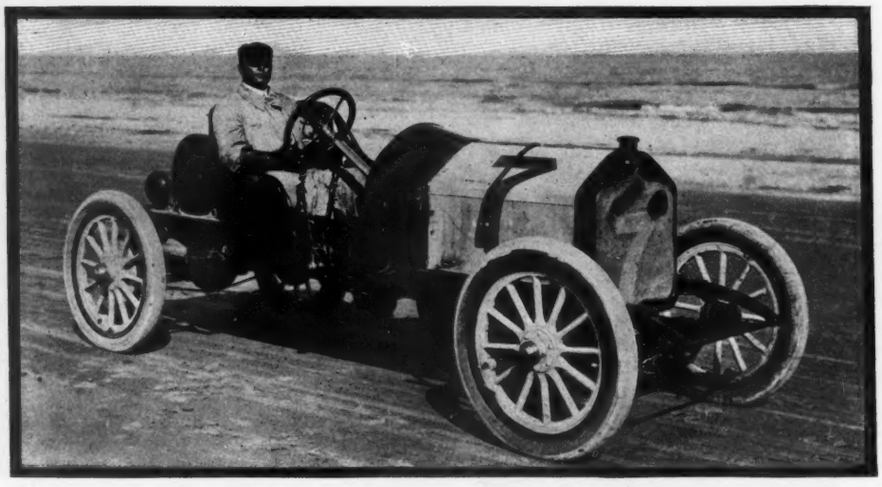
Marion	Plummer	21:52
Marion	Carroll	23:32

EVENT 4, FREE-FOR-ALL, CLASS B, 50 MILES

Chadwick	Ben Johnson	42:56⅘
Buick	DeWitt	43:23⅗
Inter-State	Brinker	
Marion	Plummer	
Stoddard-Dayton	De Hymel	
National	Munn	

Second Day's Racing

Galveston, Tex., Aug. 4—The second day of the annual race meet on Galveston beach speedway was featured by two results. One of these was the winning of two of the races by Captain J. W. Munn, of Galveston, president of the Texas State Automobile Association and a leading amateur driver of the south. The other was the setting of a fast record for the mile straightaway with a flying start. Captain Munn, the director of this meet, worked it up, and it was due to his efforts largely that some eighteen fast racing cars were brought here for the meet. He made a tour of the principal cities of Texas, stirring up enthusiasm and getting entries for the races. The crowd of 10,000 people today cheered him for his success.



CAPTAIN MUNN IN NATIONAL—TEXAS' BEST AMATEUR DRIVER

The feature event of the second day's racing was the race for the Galveston beach record for 1 mile, with flying start. This was won by Len Zengel in his six-cylinder Chadwick, the time being :40⅗, or at the rate of 90 miles an hour. Tobin de Hymel, of San Antonio, was second in a Stoddard-Dayton 50, his time being :41⅘. In the first race of the day Captain Munn went the 20 miles in his National 40 in 17:23. The race was over the 5-mile straightaway, necessitating four turns on the beach. The course was in excellent condition. The 10-mile races were run over a 2½-mile straightaway, thus giving the crowd in the grand stand more excitement for their money. Summaries:

EVENT 5, 451 TO 600 CUBIC INCHES, CLASS B, 20 MILES

Car	Driver	Time
National	J. W. Munn	17:23
National	H. F. Sundin	18:17⅘
Stoddard-Dayton	De Hymel	
Inter-State	Harold S. Brinker	

EVENT 6, 161 TO 230 CUBIC INCHES, CLASS B, 10 MILES

Stoddard-Dayton	De Hymel	11:52⅘
Buick	Henry Petit	12:01⅘
Buick	George DeWitt	12:18⅘

EVENT 7, CLASS E, 1 MILE

Chadwick	Len Zengel	:40⅗
Stoddard-Dayton	De Hymel	:41⅘
Chadwick	Ben Johnson	:42⅘
Buick	George DeWitt	:44⅕
National	J. W. Munn	:45⅕

EVENT 8, 231 TO 300 CUBIC INCHES, CLASS B, 10 MILES

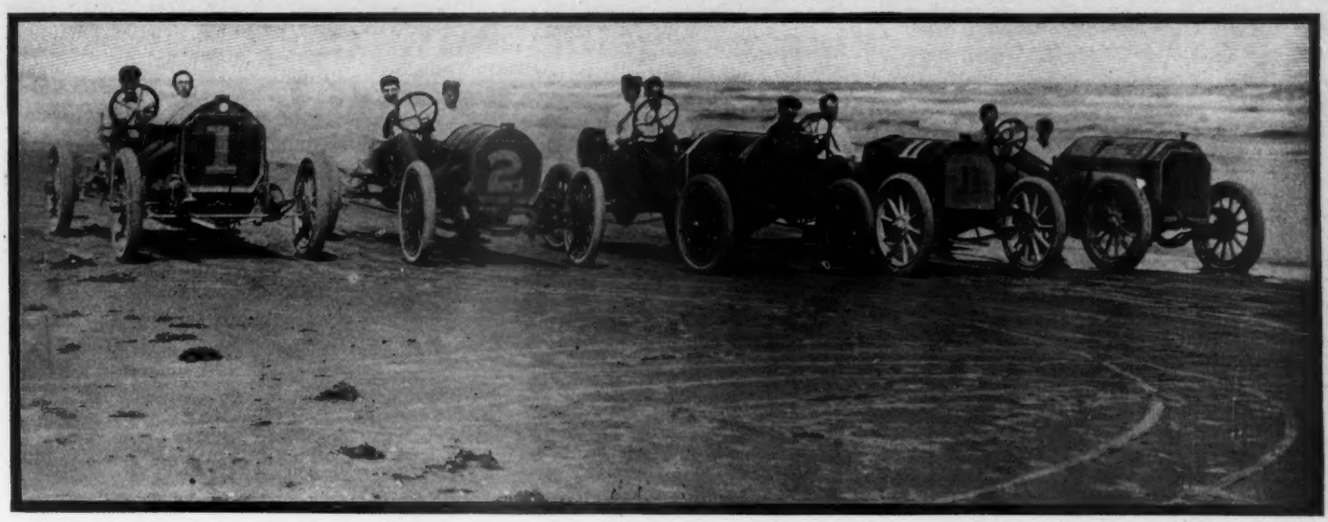
Marion	F. L. Carroll	11:10
Stoddard-Dayton	De Hymel	11:35⅕
Marion	P. R. Plummer	12:06⅘
Moon	Phil Wells	

EVENT 9, 301 TO 450 CUBIC INCHES, CLASS B, 10 MILES

National	J. W. Munn	8:51⅗
National	H. F. Sundin	9:06⅘
Moon	Phil Wells	

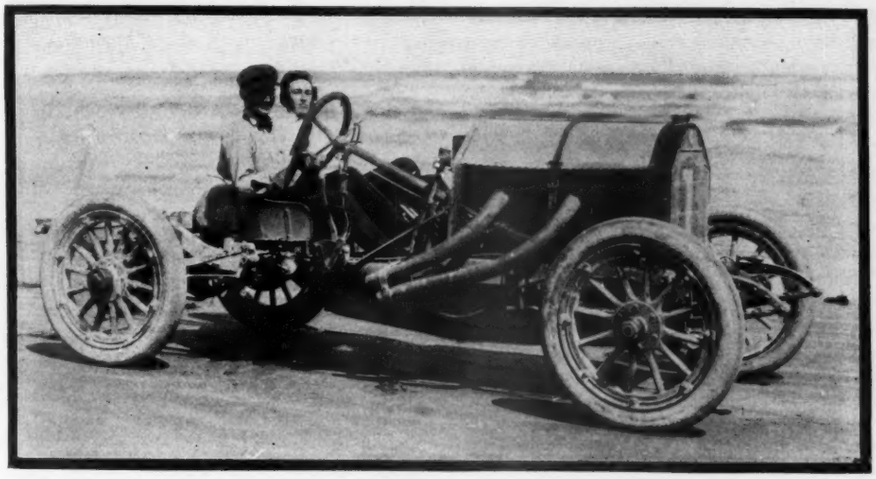
De Hymel Wins Long Race

Galveston, Tex., Aug. 5—The last day of the annual race meet on Galveston beach speedways had for a feature a 200-mile race over a straightaway course. Tobin de Hymel, of San Antonio, in a Stoddard-Dayton 50, drove his car the dis-



FROM LEFT TO RIGHT—STODDARDS NO. 1 AND 2, HUDSON, MOON AND CHADWICK

Stars in the Galveston Beach Races



TOBIN DE HYMEL IN STODDARD, WINNER OF LONG RACE

tance in 3 hours 2 minutes 22 seconds, in competition with eleven other cars. He averaged 66.5 miles per hour. De Hymel also covered the 50 miles in 44:41 and 100 miles in 1:28:56⅗. The race was worth $1,000 to de Hymel in prizes and trophies.

Ben Johnson, of San Antonio, in his six-cylinder 60-horsepower Chadwick, finished second, his time being 3:20:21⅘. J. W. Munn, of Galveston, was third, driving his National 40; time, 3:33:33⅗. The course was a 5-mile straightaway, necessitating forty turns on the beach for the entire race.

The eleven cars which started in this race were two Chadwicks, each 60 horsepower; two Nationals, each 40 horsepower; Stoddard-Dayton 50, Buick 30, Hudson 20, Stoddard-Dayton 30, Inter-State 40, two Marions and a Marmon. The Simplex 90 was entered, but was withdrawn on account of an accident a few days before the race. Besides the three prize winners mentioned above, the Hudson 20 was the only car that finished the distance. The others dropped out from time to time because of minor accidents or motor trouble. It was a hard, fast, gruelling race from the start, and proved a test both of speed and endurance.

De Hymel's driving of the Stoddard-Dayton was brilliant and thrilling throughout. He went the entire distance without a stop, and was in the lead from the beginning, although Ben Johnson's Chadwick was close upon him during the first 50 miles of the race.

At the end of the first lap of 10 miles the cars were running in this order: Stoddard-Dayton, Chadwick driven by Johnson, Buick, Chadwick driven by Zengel, National driven by Munn, National driven by Sundin, Marion driven by Carroll, Marmon, Marion, Inter-State, Hudson, and Stoddard-Dayton driven by Steinhardt. The end of the second lap the cars were running in this order: Stoddard-Dayton, Johnson's Chadwick, Zengel's Chadwick, Buick, Munn's National, Sundin's National, Carroll's Marion, Plummer's Marion, Inter-State, Marmon, Hudson, Steinhardt's Stoddard-Dayton. After the third lap Zengel's Chadwick experienced motor trouble and was not in the race after that, to the crowd's disappointment. During the fourth, fifth and sixth laps the cars were strung out in this order: Stoddard-Dayton, Johnson's Chadwick, Munn's National, Carroll's Marion, Plummer's Marion, Inter-State, and Hudson. Other cars were hopelessly distanced. During the eighth lap DeWitt stopped his Buick at the repair pits to take on fuel. He was delayed 15 minutes. In the eleventh lap his car was hit by Carroll's Marion, the Buick standing at the time near the repair pit. Both cars were considerably damaged, and neither was in the race thereafter. Carroll claimed the Buick was too far away from the pits and not enough off the course. DeWitt said he was as near the pits as he could get.

During the eighth lap Munn's National lost a tire. He put on a new one in 2 minutes and got off quickly. In the tenth lap Munn overtook Johnson's Chadwick and passed it, but lost second place in the eleventh by fast driving on Johnson's part. Plummer's Marion was fourth in the race at the eighteenth lap, but was in that lap laid up for 6 or 7 minutes at the repair pit. After 180 miles had been run there were only four cars on the course, these being de Hymel's Stoddard-Dayton, Johnson's Chadwick, Munn's National, and Labodie's Hudson. They finished in the order named. The Hudson car had gone only 140 miles when the National car crossed the line and was awarded third place. The National was badly crippled in the right front wheel as it made the last 20 miles, and but for this would have given Johnson's Chadwick a harder race for second place.

De Hymel, the winner, made the first 50 miles in 44:41, the second in 44:15⅗, the third in 45:07, and the fourth in 48:18⅗. The Inter-State was out of the race after the third lap, on account of tire trouble.

One hundred miles was run by nine of the cars. Driver Clark, of the Marmon car, had engine trouble after the second lap and did not finish. The Mallory steamship line's trophy, a loving cup, was

awarded to de Hymel for winning this race. De Hymel got $500 for taking first place, $100 for the best time for 50 miles, and $150 for the best time for 100 miles. The 200-mile race brought this race meet to a close. Summaries for the 200-mile race:

Car	Driver	Time
Stoddard-Dayton	De Hymel	3:02:22
Chadwick six	Johnson	3:20:21⅖
National	Munn	3:33:33⅘
Hudson	Labodie	†
*Chadwick six	Zengel	
*Buick	De Witt	
*Marion	Carroll	
*Marion	Plummer	
*Inter-State	Brinker	
*National	Sundin	
*Marmon	Clark	
*Stoddard-Dayton	Steinhardt	

* Did not finish.
† Went 140 miles.

Texas Plans for Next Year

Galveston, Tex., Aug. 6—Every motorist in Texas is elated over the success which attended the race meet on Galveston beach speedway and is beginning already to formulate plans for a more extensive meet next year. Ten big racing events were pulled off at the meet just closed. Not an accident occurred to injure a person, and there was little bickering and protest over any of the events among the drivers and entrants. Stock is now being subscribed for the construction of a circular mile dirt track to be used next year in connection with the beach speedway. This circular track will cost $15,000, it is estimated, and of this amount $6,000 already has been subscribed. The promoters of this are J. W. Munn, of Galveston, president of the Texas State Automobile Association; G. A. C. Halff, of San Antonio, and R. W. Carr, of San Antonio, the contest representative of the A. A. A. in the recent meet held here. It is intended to surface this mile dirt track with mudshell and reef shell, and such a surfacing has already proven successful for fast speedways in this city and in Houston.

RACING AT THE MEADOWS

Seattle, Wash., Aug. 5.—Percy Barnes, driving a Speedwell 50, captured the honors at the Meadows, taking two races and scoring the fastest time of the meet by taking the circuit of the track in 1:33⅕. One of the events of the day's program was the first race, for light cars. The Ford and Oakland were the only real contestants, the Maytag, which entered, dropping out after the first few laps. It was a 10-mile event, and the cars were running close, with the Oakland having a little the best of it up to the seventh lap, when spark plug trouble slowed it, the car finishing second on three cylinders. R. P. Rice drove the winning car. Both cars were stripped. The second race, 10 miles, was between the Speedwell and Pullman, stock cars stripped, the Speedwell, driven by Barnes, winning in 11:10⅘, from C. S. Cummings in the Pullman. Six cars entered in the 25-mile free-for-all, which the Speedwell won after a good contest. The Pullman was second and the Stearns third. The Speedwell made the 25 miles in 27:33.

Pierce-Racine Now the Case Car

RACINE, WIS., Aug. 6.—The Pierce-Racine car, manufactured by the Pierce Motor Co., of Racine, Wis., hereafter will be known as the Case, and will be distributed exclusively by the J. I. Case Threshing Machine Co., of Racine, the oldest builder of traction and threshing machinery in the United States. Under an arrangement entered into by the two concerns this week, the Case company absorbs the entire output of the Pierce Motor Co., and the product will lose its identity, appearing under the name of Case, gaining the prestige of the name Case and deriving the benefit of an immense organization, consisting of 8,000 agents and 700 traveling representatives, now employed by the Case company.

The production of the Pierce Motor Co. will be tripled at once. A. J. Pierce, designer of the Pierce motor, will continue in that capacity, and James G. Cowling, general manager of the Pierce company, will hold the same position under the new arrangement. The Pierce company was one of the first in America to build gasoline motors for vehicles, but it was not until 2 years ago that complete cars were marketed.

The interests controlling the Case company appear in the Pierce concern. When it was decided to build complete cars, the Pierce Engine Co. was reorganized as the Pierce Motor Co., with a capital stock of $300,000, and Charles L. McIntosh, of Milwaukee, an official of the J. I. Case Threshing Machine Co., was elected president. Mr. McIntosh died at Naples last spring. It now is necessary to again reorganize the company, and the arrangement with the Case concern is one of the first steps that has been taken.

The Pierce-Racine car is licensed under the Selden patent. The production for 1911 was figured at 1,000 cars, but this will be increased to 3,000, if it is at all possible to increase the facilities to this extent within the present season. It is not known what the effect of the new arrangement will be in respect to present agencies, but it is believed the important ones will not be disturbed.

BUICK ISSUES STATEMENT

Detroit, Aug. 9—A statement issued by the Buick Motor Car Co., of Flint, last week to the Dun and Bradstreet agencies, showing assets of $17,445,964.50, liabilities of $7,016,012.28, and a profit of more than $6,000,000 for the year, has rather put a quietus on the wild rumors that have been coming out of Flint. The statement is a remarkably frank one, and goes into minute details. With reference to its surplus of 1910 cars, the company represents that it has 2,316 cars at twenty branches, an average of 115 cars to each branch, if equally distributed. Some of these branches, it is pointed out, are doing a business of $400,000 per month, which means a distribution of 400 cars. Monthly sales of Buick cars at the present time aggregate $2,500,000, according to the statement, and this figure is considerably in excess of the value of the cars now reported on hand at the various branches. The total sales this year were $20,479,972.11, as against $12,293,944.64 last year.

The statement shows that the Buick company has in quick assets, aside from other resources, finished machines, 1910 models, at factory and branches, valued at $3,336,000, and machines in process of construction to complete the schedule of prodction for the season of 1910 to the value of $4,670,000, a total of $8,006,200, all of which will be converted into cash within the next 4 months. The largest amount ever received by the A. L. A. M. in royalties was paid by the Buick company for the quarter ending June 30, 1910. During that period the company built and sold 8,697 cars, and the royalties amounted to $93,855.20.

HARVESTER PLANT EXTENSION

Akron, O., Aug. 8—Because the Akron plant of the International Harvester Co. is not large enough to produce cars in sufficient quantities to supply the demand for this class of power vehicles the directors of the company have ordered the dismantling of the company's twine mill in this city, which will be moved to Neuss, Germany. The buildings occupied by the mills then will be turned over to Superintendent E. S. Church, in charge of the motor car department. The twine mills occupy four buildings of the following dimensions: Three stories, 48 by 157 feet; three 50 by 201 feet; two stories 32 by 61 feet, and one story 24 by 40 feet. Three floors of the two largest buildings will be available, thus increasing the floor space for motor car building several thousand square feet. While the twine mills provided employment for over 200 men and women, none will suffer by the removal of the plant to Germany, for all will be given employment in the motor car department, which will thus be expanded considerably.

The Akron works of the Harvester company which at present are devoted to the manufacture of motor cars have a land area of 102 acres with 384,000 square feet of floor space, giving employment to 1,403 men. They produce at present 4,000 cars a year. Until recently the Akron factories also produced large traction engines for use on western ranches and for heavy road work, but this department of the work has also been removed from Akron to provide more room for the manufacture of motor cars. With the additional space derived from the use of the twine mills and the space being provided in new buildings the Akron factories will produce over 10,000 machines a year and give employment to nearly 3,000 employes.

Packard Issues Annual Statement

DETROIT, MICH., Aug. 8—The Packard Motor Car Co. has made public a portion of its annual statement for the last fiscal year, showing that the total output for 1910 was 3,270 cars, an increase of 970 over the 1909 output. During the year the number of men on the company's payroll increased from 4,715 to 7,211, and the floor space was increased from 23 to 33 acres.

On the whole, the alarmists have had rather a poor week of it. On top of the statements referred to came the news from New York, confirmed by President Walter E. Flanders, that directors of the E-M-F Co. had voted a semi-annual cash dividend of $250,000. Asked concerning the report, Mr. Flanders said he had just finished signing the checks.

In connection with the annual convention of Metzger Motor Co. agents, held here last week, the company announced that its entire output of 4,000 1911 cars had been contracted for. It was also announced that the business of the Hewitt Motor Truck Co., which is controlled by the Metzger company and operated under that name, will be transferred to Detroit as soon as the new factory being erected in the northwestern part of the city is completed. Those in attendance at the convention were: Walter L. Githens, Chicago; H. O. Harrison, San Francisco; H. J. Koehler, New York; J. W. Bowman, Boston; C. A. Benjamin, Syracuse; W. Wayne Davis, Philadelphia; Mr. Packwood, Lincoln, Neb.; William Johnson, Denver; John Sibley, Detroit; Mr. McArthur, Minneapolis; Mr. Maxwell, Indianapolis, and Mr. Band, Kansas City.

The Brush-Detroit Motor Co., which is the selling branch in Michigan for the Brush Runabout Co., recently declared a cash dividend of 50 per cent. This is in addition to a cash dividend of 25 per cent declared in June.

The newly-organized Lion Motor Sales Co. filed articles of association with the Wayne county clerk Wednesday. Fred Postal, proprietor of the Griswold house, holds all but two shares of the capital stock of $10,000, all of which has been paid in, in cash. The holders of the other two shares are Robert L. Fee and Harry F. Postal.

Following the retirement of C S. Briggs, W. S. Piggins has been elected president of the Krit Motor Car Co. Mr. Briggs has disposed of all his stock in the company, and rumor has it that he is to enter the services of one of the big motor car combinations. Kenneth Crittenden assumes the vice-presidency of the company, B. C. Laughlin remains as secretary and treasurer, and J. E. Winney will be sales manager. President Piggins says that the company's output for 1911 will approximate 5,000 cars. It is now considerably behind orders.

A petition has been filed in the United States district court here by the General Sales Co., the Central Foundry Co. and the Williams Carbureter Co., with claims of $308, $2,557 and $96, respectively, asking that the Demot Car Co., of Detroit, be declared a bankrupt. The petitioners allege liabilities of over $100,000 and represent that the company's officials in writing, August 3, acknowledged their inability to meet claims and their willingness to be declared bankrupt. It is alleged that the company committed acts of bankruptcy May 4 and 8, when $1,480 was turned over to the New York Gear Co. and $2,000 to the Detroit Radiator Co., these creditors being preferred, it is claimed.

Price-cutting has been the chief topic of conversation in the trade the past week. The slashing, according to those who claim to be familiar with the situation, was begun in a quiet way by one or two large companies that had not been fortunate enough to sell all of their 1910 output. If this is true, the makers have gone about it very quietly indeed, for none of the newspapers has learned of it, even though the cuts, in some instances, are said to have been as low as 40 per cent. Three cars of well-known makes figure in the gossip. It is declared that several sales have been made at the reduced figures.

In spite of these reports, there is little likelihood of a price war. A number of the larger companies have been running full-page announcements of their 1911 models in the local papers at last year's prices, and there has been no halt in the expansion plans undertaken in various sections of the city earlier in the summer, some of which are now nearing completion. New companies continue to form. At this writing a corporation for the manufacture of a high-power electric pleasure car in this city is being promoted. The details probably will be announced within the next 3 weeks. It will manufacture the H. & F. electromobile.

Another new corporation that will soon make its bow is the Detroit Airless Tire and Rubber Co. The organization plans have been under way for several weeks, and are now nearing completion. The persons interested have been making airless tires on a small scale in Dayton, O., but the enterprise will be removed to this city as soon as the present plans are perfected.

CHICAGO SHOW DATES

Chicago, Aug. 8—The tenth annual national Chicago show, under the auspices of the National Association of Automobile Manufacturers, will occupy 2 weeks, commencing January 28 and ending February 11, 1911. The first week's show will open at 2 p. m. on Saturday, January 28, and close at 10:30 p. m. Saturday, February 4. The exhibits will consist exclusively of pleasure vehicles and accessories. The method of allotment will be as heretofore; that is to say, members of the association will be given first choice. The second section will open at 8 p. m. on Monday, February 6, and close at 10:30 p. m. Saturday, February 11. Commercial vehicles will be given first choice; pleasure vehicles which have not exhibited the first week second choice and other pleasure vehicles third choice in the motor car section. Suitable arrangements have been made for a motor cycle section, to which the exhibit of motor cycles will be confined. The drawing for space in the motor car section for the first and second weeks will be entirely distinct; that is to say, no concern will be permitted to draw space and occupy it for 2 weeks, the first with pleasure and the second with commercial cars. More space than ever before will be allotted to the Motor & Accessory Manufacturers, who, as heretofore, will make their own allotment. Accessory exhibitors will be permitted to contract for 1 week or both weeks, as they prefer.

U. S. M. C. CO. CHANGES

New York, Aug. 8—Announcement is made by the United States Motor Co. of the appointment of Montgomery Hallowell as general advertising manager. He will assume his new duties August 15. Henry W. Nucklos, who has been vice-president of the Columbia Motor Car Co., of Hartford, Conn., one of the concerns affiliated with the United States Motor Co., at a recent meeting of the directors of the former company was elected to the presidency. Ernest H. Brandt, formerly president and general manager of the Rambler Automobile Co., of New York, has severed his connection with that company to join the sales organization of the United States Motor Co. in the capacity of district manager.

TOLEDO-DETROIT ROAD PLANNED

Toledo, O., Aug. 6—A broad highway 60 miles long between this city and Detroit, traversing one of the most beautiful regions in the world, now seems a probability. The miserable condition of the roads between the two cities has proven one of the most annoying features to motorists, who for this very reason seldom make the trip except on business. This condition has resulted in much grumbling and occasional outbursts in favor of improving the condition, and while many plans have been talked of, nothing definite has taken shape. Those who know Brand Whitlock, not as a dreamer, but as a doer of things, are therefore very enthusiastic over the present prospect of definite action in the near future. It is pointed out that such a road would not only be a source of great satisfaction to tourists and others bent on pleasure, but would result in great benefit to both Toledo and Detroit, as well as to smaller cities and the entire farming district along the route. It is probable the matter will be taken up by the Toledo city council, which will endorse the idea suggested by Mayor Whitlock, and that practical results will follow.

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The Problems of Carburation Are Many

THE carbureter problem has proven such a difficult one to solve that for the last couple of seasons a dozen or more concerns who have been building their own carbureters have discontinued them and adopted carbureters manufactured by companies who devote all their time to such manufacture. This adopting of a stock carbureter is another evidence of the old adage, "Every man should be heard in his own department." It is natural that a factory which devotes all of its energies to the study of carburation should discover more about this than a factory building a motor car, and in which the design of the carbureter is but one of many features entering into the car makeup.

THERE is one respect, however, in which the manufacturer who builds his own carbureter to suit his car should be heard. It has been proven by many manufacturers, so they claim, that a carbureter has to be suited to the motor. There is some truth in it. Many cases are on record where the best carbureter experts have tried to get certain results out of certain motors with their carbureters, but have failed; whereas other demonstrators, with a different make of carbureter, have produced satisfactory results. It is a safe assertion that each carbureter was given its best demonstration. Granted that this is so, then it remains that one carbureter was better suited for that motor than another. This would, to an extent, bear out the assertions of car builders that their carbureters and built to suit their motors, and as a consequence will give better results than stock-made carbureters of some carbureter house.

LEAVING for the present the question as to whether one carbureter is better for a certain motor than another, there are several carbureter problems with which manufacturers are wrestling at the present time. These problems are being solved year by year. Perhaps no greater problem exists than that of maintaining the desired vacuum around the spraying nozzle. The reason for maintaining a desired vacuum is that the flow of gasoline from the nozzle is determined by the vacuum. It does not mean that the same degree of vacuum is needed at all times, in fact, it must change. On low speeds, when a rich mixture is desired, the vacuum must be increased so as to increase the richness of the mixture. On high speeds the vacuum is reduced because so rich a mixture is not needed, in view of the fact that there is a shorter period available for combustion, owing to the increased crankshaft speed. On many cars an auxiliary air opening is placed on the intake manifold, and this is brought into use on high speeds, which, when in use, means that the vacuum around the nozzle is reduced and the desired leanness of mixture for high-speed work obtained.

THERE have been three leading methods used in obtaining the requisite vacuum around the nozzle, one being some method of by-passing air into the mixture, this by-passed air not passing the spraying nozzle. The first method of doing this was by manual control, that is, having a separate air passage and bringing this air passage into service as the throttle was opened. The valve in the air passage was set in a definite relation to the throttle valve so that as the throttle valve opened to give required speeds the air valve also opened. This mechanical means of control has practically become obsolete.

TIE second and most popular method of maintaining the desired vacuum around the nozzle is by the auxiliary air valve. The theory of operation in the auxiliary air valve is briefly this: As the motor speeds up in response to an opening of the throttle and advance of the spark, the demand for mixture upon the carbureter is so great that with the ordinary opening around the nozzle too much gasoline will be brought out in proportion to the air that could pass the nozzle. The auxiliary air valve is introduced so that it will open when the engine suction, if the term may be used, reaches a determined point. Immediately the auxiliary valve opens the current of air past the spraying nozzle is reduced, and the amount of gasoline taken in kept down. By careful study of the opening of the auxiliary air valve it is possible to maintain a reasonably-desirable vacuum around the nozzle.

MANY are the methods that have been resorted to to control the auxiliary air valve. One maker controls the valve by a single coil spring, but on experimenting with it he discovered that the first compression on the spring is very rapid, whereas later it becomes slower. He discovers there is not a uniform compression of the spring and consequently not that desired proportional opening of the air valve in response to the motor requirements.

A SECOND manufacturer has introduced two springs to control this valve. One spring comes into use for certain medium speeds. and when its limit of compression is reached another spring begins compression, the maker hoping thereby to have a fixed proportion of opening in the valve in proportion to the needs of the motor. Still a third manufacturer pins his hope to a single spring, but has the coils of a different diameter so that the larger-diameter coils will compress first, after which the smaller-diameter coil will begin compressing, the manufacturer hoping thereby to secure that desired vacuum around the needle valve for the varying conditions of touring or racing.

A SECOND group of manufacturers and experimenters in carbureters has tried to avoid the auxiliary air valve in their design, and has placed a control on the spraying nozzle, whereby a series of gasoline openings in the nozzle are uncovered in a fixed relation to the motor speed. In reality these manufacturers are operating along practically the same theory as those using the auxiliary air valve, although in one or two cases instead of a spring being used for control the controlling medium is a weight which must be lifted by the gas-pull of the motor.

ALREADY the announcements of 1911 carbureters is such as to give every indication that in no department of motor car constructionl is rivalry going to be greater than in the carbureter field. The various problems in addition to that of maintaining the required spraying nozzle vacuum are being taken up earnestly by the different makers. The question of waterjacketing has been approved by the majority excepting in cases where the mixing chamber is sufficiently protected without this means. Manufacturers have realized the value of waterjacketing in winter time and also the advisability of cutting out the waterjacketing in summer seasons.

BROOKLYN PUTS ON A RELIABILITY CONTEST

NEW YORK, Aug. 9—With a field of thirty cars in the contesting division, eight among the tourists, and with a considerable escort of non-participating machines, the 2-day reliability run of the Brooklyn Motor Vehicle Dealers' Association was started this morning from in front of the quarters of the Long Island Automobile Club. The sky was overcast and the weather bureau held out promise of a wet trip. But up to the moment of starting the roads were in fine condition, as the result of the showers of the night before. The course of the run is about 400 miles, and it zig-zags across the island, so as to cover most of the picturesque roads. From the start it leads to the north shore at Little Neck and thence through a dozen small towns to Smithtown, where a checking station was arranged. Crossing the island, the tourists made Patchogue and proceeded along the south shore to Bridgehampton, another control. The eastern point of the tour is Amagansett, where the course cuts northward again to the sound and thence to Southhampton. The second day's run was along the north shore with frequent detours to make up the distance. The entrants are:

No.	Car	H.P.	Driver
CLASS 1A, SELLING AT $800 AND LESS			
14	Hubmobile	20	A. H. Bellman
15	Krit	22½	A. K. Schaap, Jr.
CLASS 2A, SELLING FROM $801 TO $1,200			
4	Hudson	22½	W. H. Bruns
5	Ford	20	Walter Blake
9	Ford	22½	F. W. Matthews
25	Maxwell	22	G. M. Wagner
CLASS 3A, SELLING FROM $1,200 TO $1,600			
8	Maxwell	30	E. T. Bloxham
17	E-M-F	30	F. A. Alnslee
20	Maxwell	30	W. H. Fessel
26	Crawford	24-28	W. H. Houdcroft
28	Overland		George Weber
CLASS 4A, SELLING FROM $1,601 TO $2,000			
2	Haynes	30	L. A. Rourk
6	Inter-State	32	H. G. Martin
12	Auburn	40	Jacob Stark
13	Velie	40	A. Wilmorth
22	Chalmers	30	Emil Feidler
23	Midland	40	Leo Anderson
24	Haynes	30	R. Schmidt
27	Herreshoff	24	A. W. Blanchard
29	Pullman	28	Ellis Kulp
30	Pullman	35	John Hoffman
CLASS 5A, SELLING FROM $2,001 TO $3,000			
1	Columbia	32⅛	I. C. Kirkham
10	Halladay	40	Jos. Kenny
11	Winton	48	William Braden
16	S. G. V.	22⅕	J. M. Mears
18	Kline	40-50	C. Smith
19	Speedwell	50	A. Gross
21	Columbia		J. N. Wagner
CLASS 6A, SELLING FROM $3,001 TO $4,000			
3	Locomobile	30	P. Mahony
7	Stevens-Duryea	35	A. J. McDermott

In the division devoted to touring the following were entered: Ford, White, Cadillac, Paterson, Stearns, Cartercar, Winton, Stevens-Duryea and a Pullman. The officials are carried in a Haynes, Franklin, Locomobile and an Acme.

The first day's run consisting of 177 miles was accomplished without special incident or accident. The hill roads proved to be in excellent shape and after taking on fuel at Smithtown the tourists proceeded to Patchouge, the noon control, over typical Long Island roads. The back track to Smithtown was over another set of good roads and save for some stiff grades near Speonk the whole afternoon route was easy. All the cars reached Southampton, the night control, between 5 and 7 o'clock. Several clean scores were claimed as a result of the first day's run, but nothing official was given out to verify the claims. One whole section of the run went astray after laving Bridgehampton owing to lack of confetti, but this will not be charged against the contestants.

POSTER FOR ELGIN NATIONAL RACES

COMING MOTOR EVENTS

August 16-27—Munsey tour.
August 17—Track meet at Cheyenne, Wyo.
August 26-27—Road races of Chicago Motor Club at Elgin, Ill.
August 31-September 8—Reliability run of Automobile Club of Kansas City, Mo.
September 2-3-5—Speedway meet at Indianapolis.
September 3—Reliability run of North Wildwood Automobile Club, Wildwood, N. J.
September 5—Track meet at Wildwood, N. J.
September 5—Track meet at Cheyenne, Wyo.
September 5—Road race of Denver Motor Club, Denver, Colo.
September 5-10—Track meet at state fair, Minneapolis, Minn.
September 7-9—Four-day reliability run of Automobile Club of Buffalo.
September 9-10—Track meet at Providence, R. I.
September 10—Automobile Club of San Francisco road race, Golden Gate park.
September 10—Mount Baldy road race, Los Angeles, Cal.
September 10-11-12—Track meet at Seattle, Wash.
September 15—Annual hill-climb of Chicago Motor Club at Algonquin, Ill.
September 17—Track meet, Syracuse, N. Y.
September 18—Track meet at Syracuse, N. Y.
September 24—Santa Monica road race of Licensed Motor Car Dealers of Los Angeles, Cal.
October 1—Vanderbilt cup race.
October 3—Reliability run of Louisville Automobile Club, Louisville, Ky.
October 7-8—Speedway meet at Los Angeles, Cal.
October 6-7-8—Track meet at Santa Anna, Cal.
October 8—Fairmount Park road race, Philadelphia, Pa.
October 15-November 2—Show in Paris promoted by Aeronautical Society.
October 15-16-17-18—Annual 1,000-mile reliability run of Chicago Motor Club.
October 20-21-22—Speedway meet at Atlanta, Ga.
October 23—Road race, Portola cup, San Francisco, Cal.
October 27-28-29—Track meet at Dallas, Tex.
November 5-6—Track meet at New Orleans, La.
November 6-9-13—Track meet at San Antonio, Tex.
November 24—Hill-climb at Redlands, Cal.

New York, Aug. 10—Special telegram—At the conclusion of the run, clear road scores were claimed by the following cars: No. 23, Midland; No. 11, Winton; No. 14, Hupmobile; No. 3, Locomobile; No. 30, Pullman; No. 5, Ford; No. 9, Ford; No. 7, Stevens-Duryea; and No. 22, Chalmers. Besides these the official report may include similar claims for several of the other contestants when the score is completed.

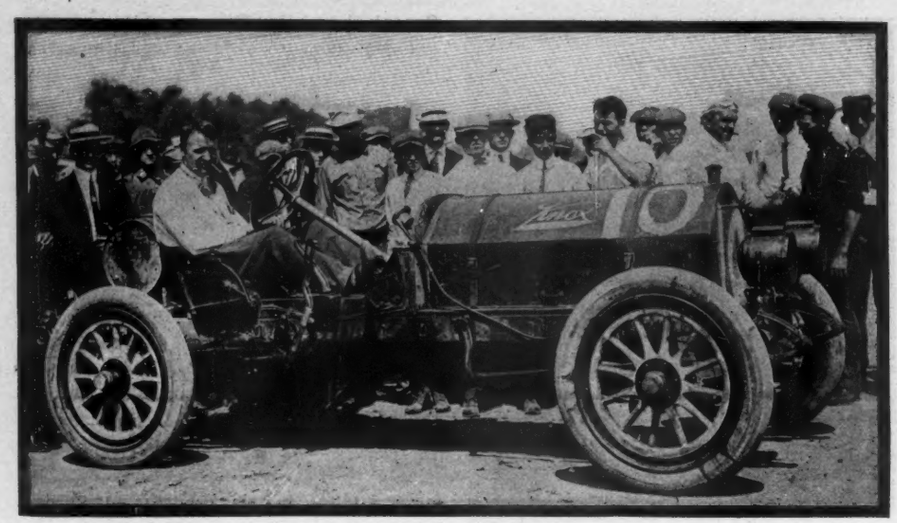
Tire trouble was experienced by several of the cars, but not sufficient of this variety of trouble was had to affect the final score of any of the entrants. The Halladay, No. 10, broke a valve on the first day's run. Speedwell, No. 19, was ditched during the second day, but was able to continue. Otherwise the run was singularly free from accidents. Secret controls had been established at five points, and the cars were checked at these places, as well as the regular checking stations, to determine the consistency of their running time. This feature of the affair resulted in some delay in announcing the scores of the various entrants, and it will probably require at least 24 hours to reach exact figures on all the cars.

The weather at the finish was stormy, and all the tourists were well soaked when they arrived at the club house of the L. I. A. C. The rain of the final day started about noon, and from that time to the end there was a gray drizzle that proved uncomfortable to all hands.

CROXTON ON HIS FEET

New York, Aug. 9—H. A. Croxton, president of the Croxton-Keeton Motor Co., of Massillon, O., which was thrown into the hands of a receiver August 1 on Mr. Croxton's application to the federal court at Cleveland, was in New York today making arrangements looking to a reorganization. According to Mr. Croxton, the receivership will be lifted within 60 days and the 1911 line of cars will be ready for market by September 15. He stated that the troubles of the company were due to a disagreement between some of the officers and that he only resorted to a receivership in order to protect the creditors from ill-advised and hasty action. He says that the assets of the company, pruned down to the last degree, amount to $295,000 and the liabilities are $273,000. Mr. Croxton says he is the owner of 90 per cent of the stock of the company. P. L. McLain has been named as receiver.

Knox Wins Quakers' 6-Hour Race



OLDFIELD IN KNOX THAT WON 6-HOUR RACE

PHILADELPHIA, PA., Aug. 6—What is estimated to have been the largest crowd that ever witnessed a sporting event of any kind at the famous old race track at Point Breeze was present today to witness the time trials and races of the Quaker City Motor Club's mid-summer meeting. From 2 o'clock in the afternoon, when the first short-distance event was run off, till the start of the 6-hour race at a quarter of 5, devotees of the motor car came in ever-increasing numbers, and standing room was at a premium. The feature of the afternoon's racing was the new mark set by Barney Oldfield, in the Benz, who wiped out Ralph de Palma's record of 1:01 for the circular course, he negotiating the circuit in 1 minute flat. Fifteen minutes later, after a few practice spins, he shot around the track in another effort to reduce the record—this time his own, clipping ⅘ second from his previous attempt. The new record for the track is now 59⅘ seconds.

The 10-mile match race between the Mercer, driven by F. Sherwood, and the Otto, G. H. Jones driver, the first event run off, proved to be a walkover for Sherwood, the Otto meeting tire trouble on the first lap and although Jones re-entered and made a plucky attempt to make up lost ground, the Mercer won easily, finishing in 12:28⅘.

Harvey Ringler, driving a Pullman, had a comparatively easy time winning the 10-mile race open to class C cars, 450 cubic inches piston displacement and under, finishing nearly a minute ahead of his nearest competitor, a Ford, driven by Kulick. Four cars started, but on the fifth lap the Klinekar, driven by Fairman, was forced to quit and shortly afterward the Otto, driven by Jones, was forced to withdraw for a similar reason. Time, 11:30. Ringler also captured the 10-mile race open to cars of 161 to 300 cubic inches displacement in 11:33⅘.

Ben Kerscher's effort to lower the figure of the 5-mile track effort resulted in failure, his time for the distance being 5:21⅕, leaving intact Ralph de Palma's record of 5 minutes 13 seconds.

Barring the 6-hour race, chief interest centered in the 10-mile event in which Kerscher and Oldfield had a nip-and-tuck tussle, the latter winning by a scant car's length. Oldfield drove the Knox and Kerscher his Darracq. Harvey Ringler in a Pullman and a Klinekar also were entered, but the latter car withdrew on the fourth lap and the former was never threatening.

The 6-hour race was the feature of the day. Seven cars started—Knox, B. Oldfield; Klinekar, C. C. Fairman; Darracq, B. Kerscher; Ford, F. Kulick; Pullman, H. Ringler; Selden, C. Young, and Chalmers 40, C. Howard. Getting off to a good start the various drivers settled down for a long grind. Kerscher, in the Darracq, leaped in the lead, but was forced to relinquish it shortly to the Knox, which forged ahead and at the end of the first hour had twice lapped the Darracq, the second car. Harvey Ringler had hard luck several times during this contest, having to leave the track several times, starting with the very first lap, when he threw a rear tire. At the end of the second hour the Knox was 7 miles ahead of the Klinekar, which had usurped the Darracq's place as chief contender, engine trouble shortly after causing the withdrawal of the latter. At the end of the fourth hour the Knox had a lead of 12 miles and it was only a question as to how many miles the car would make. In the fifth hour a pretty race developed between the Klinekar and the Ford for second place. So fiercely was it fought out that at the end of the hour each car had covered 209 miles. Minor troubles developing, however, caused the Ford to lose ground in the last hour. At the end of the race the Knox had completed 261 miles; Klinekar, second, 245; Ford, third, 226. Summaries:

One-mile trials against the Point Breeze track record of 1:01, held by Ralph de Palma—Barney Oldfield, Benz: First trial, 1 minute flat; second trial, :59⅘.

Ten-mile match race between the Otto and the Mercer—Won by the Mercer, F. Sherwood, driver; time, 12:28⅘; second, Otto, driven by G. T. Jones.

Ten miles, open to class C cars, 161 to 300 cubic inches piston displacement—H. Ringler, Pullman car, won; time, 11:33⅘; G. H. Jones, Otto, second; time, 12:12; F. Kulick, Ford, third; time, 12:14⅘.

Ten miles, open to class C cars, 161 to 450 cubic inches piston displacement—Harvey Ringler, Pullman, won; time, 11:30; F. Kulick, Ford, second; time, 12:10.

Trial against the 5-mile track record of 5:13 held by Ralph de Palma—Ben Kerscher, Darracq, failed. Time by miles: 1 mile, 1:02⅘; 2 miles, 2:08; 3 miles, 3:12⅕; 4 miles, 4:16⅘; 5 miles, 5:21⅕.

Ten miles, open to class C cars, 750 cubic inches piston displacement and under—Oldfield, Knox, won; time, 11:23⅘; Kerscher, Darracq, second; time, 11:35; Ringler, Pullman, third; time, 13:30⅘.

Six-hour track endurance run, open to cars of 750 cubic inches piston displacement and under—Oldfield, Knox, won; distance, 261 miles; C. C. Fairman, Klinekar, second, 245 miles; F. Kulick, Ford, third, 226 miles; C Howard, Chalmers 40, fourth, 218 miles; C. Young, Selden, fifth, 167 miles.

OLDFIELD AT HARTFORD

Hartford, Conn., Aug. 9—Special telegram—Barney Oldfield, driving his Benz and the six-cylinder Knox carried off the honors in the track meet held at Charter Oak park track this afternoon, before a

KULICK IN FORD IN THE 6-HOUR QUAKER RACE

record-breaking crowd. In the 50-mile race, which was to have been a 100-mile event, Oldfield drove a pretty race and took the lead from the start, hauling down one competitor after another until he had the field left to himself. In the forty-ninth mile Oldfield blew out a shoe and changed it and was under way again in less than a minute. In the exhibition mile trial for record Oldfield made the track in :51⅘, a new record for the track and New England, the best previous time for the track being :59 flat, established 5 years ago. Ben Kerscher, driving a 100-horsepower Darracq, drove 2 miles in 1:46⅕. Oldfield won the 5-mile race for cars of 451 to 600 piston capacity in 5:27⅖ and walked away with the 5-mile free-for-all in 5:20⅕. In the 50-mile race Kerscher in the four-cylinder Knox, had hard luck.

George Mack in the Houpt-Rockwell, had to retire in the thirty-first mile when he lost a front shoe and the car crashed into a tree, throwing out the mechanic, who was removed to the hospital. Strang, in the Allen-Kingston, drove a pretty race in the 50-mile event and finished second in 63 minutes. Summary:

Two-mile record trial—Ben Kerscher, Darracq. Time, 1:46⅕.

One-mile trial—Barney Oldfield, Benz. Time, :51⅘. New record for track and New England.

Five miles, cars 451 to 600 class—Oldfield, Knox, won; time, 5:27⅖. Houpt-Rockwell second, Houpt-Rockwell third.

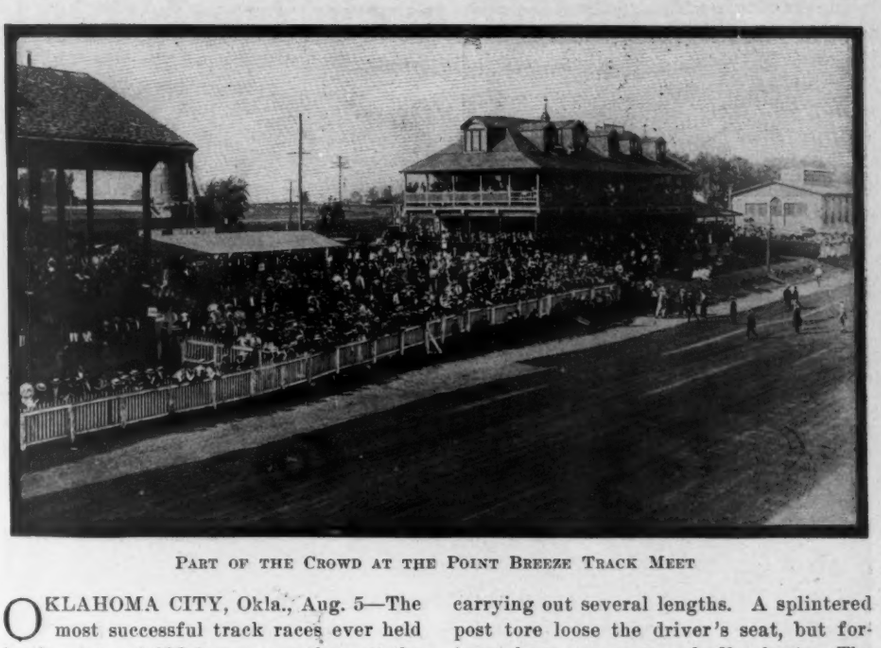
Five-mile free-for-all—Oldfield, Knox, won; time, 5:20⅕. Kerscher, Darracq, second; Martin, Houpt-Rockwell, third.

Fifty miles—Oldfield, Knox, won; time, 51:55. Strang, Allen-Kingston, second, in 1:03:00. Three Houpt-Rockwells and a four-cylinder Knox also competed.

FRENCH RELIABILITY POSTPONED

Paris, July 25—To prevent clashing with the Mont Ventoux hill-climb, and also to allow further entries to be received, the French small-car reliability trials, originally announced for the month of August, have been postponed until October, finishing immediately before the Paris show. The test is a sealed bonnet competition for small cars of not more than 2⅜ inches bore for a four-cylinder motor.

Oklahoma City Holds Track Meet



PART OF THE CROWD AT THE POINT BREEZE TRACK MEET

OKLAHOMA CITY, Okla., Aug. 5—The most successful track races ever held in the state of Oklahoma were those at the state fair grounds here, July 28, 29 and 30, under the auspices of the Oklahoma City chamber of commerce, the motor club and the dealers' association. The meet drew cars from Wichita, Kans.; Dallas, Tex., and El Reno, Okla., besides those of local dealers. On the last day of the meet the Jackson, with Stanfield at the wheel, negotiated the 5 miles in 6:51⅘, lowering the previous record held by Beard in an Auburn of 6:59⅖. In some of the races hearts and a final were necessary. The free-for-all the first day was won by an E-M-F, and the same sort of a race the second day went to a Regal, which also won the third day by taking two straight heats.

This probably will be the last meet held on a ½-mile track here, for three cars went through the fence on the turns. In a tuning-up spin the E-M-F, with Potter driving, blew a tire and went to the fence, carrying out several lengths. A splintered post tore loose the driver's seat, but fortunately no one was badly hurt. The Regal, driven by Harold Lee, skidded at the south turn and took out five lengths of fence. In the seventh race of the last day Turkenkoff, driving an Overland, following a tire blowout turned his machine into the fence and was seriously but not fatally injured. Summaries:

THURSDAY, JULY 28

Two-mile — Baumhofer, Overland, won; Turkenkoff, Overland, second. Time, 3:16⅘.

Five-mile, 20-horsepower class, local dealers —Twohig, Ford, won; Culmer, Hupmobile, second; Wallace, Hupmobile, third. Time, 7:35.

Five-mile, 30-horsepower class; first heat—Lee, Regal, won; Bell, Mason, second; Allen, Maxwell, third. Time, 7:30⅘. Second heat—Workman, Regal, won; Potter, E-M-F, second; Tinkler, Sellers, third. Time, 7:25⅖. Regals won both heats and the third was not run.

Five-mile, 40-horsepower class — Funk, Marion, won; Evans, Auburn, second. Time, 7:23⅕.

Five-mile free-for-all—Potter, E-M-F, won; Turkenkoff, Overland, second; Twohig, Ford, third. Time, 7:36⅗.

Five-mile exhibition — Stanford, Jackson; time, 7:10.

FRIDAY, JULY 29

Five-mile, 40-horsepower class—Beard, Auburn, won; Stanford, Jackson, second; Funk, Marion, third. Time, 6:59⅖.

Five-mile, 30-horsepower class — Tinkler, Sellers, won; Potter, E-M-F, second; Workman, Regal, third; Peterson, Crawford, fourth. Time, 7:23.

Two-mile, flying start—Baumhofer, Overland, won; Turkenkoff, Overland, second. Time, 2:29⅖.

Five-mile, 20-horsepower class, local dealers —Twohig, Ford, won; Wallace, Hupmobile, second; Turkenkoff, Overland, third. Time, 7:40.

Five-mile free-for-all, first heat—Potter, E-M-F, won; Tinkler, Sellers, second. Time, 7:32⅕. Second heat—Workman, Regal, won; Bell, Mason, second; Allen, Maxwell, third. Time, 7:28⅗. Final heat—Workman, Regal, won; Potter, E-M-F, second. Time, 7:26⅘.

SATURDAY, JULY 30

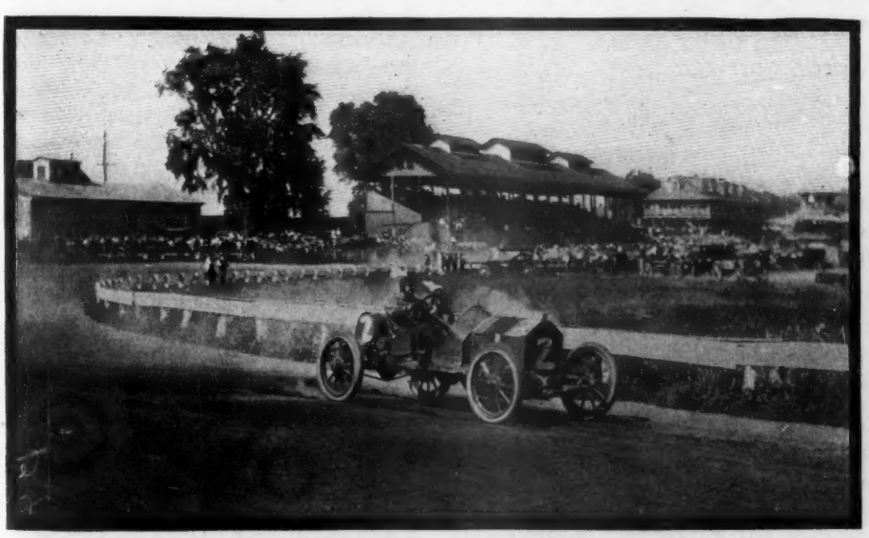
Two-mile midget race—Peterson, Maxwell, won; Dalton, Brush, second. Time, 5:04.

Five-mile—Peterson, Crawford, won; Lee, Regal, second; Workman, Regal, third; Potter, E-M-F, fourth; Tinkler, Sellers, fifth. Time, 7:17⅕.

Five-mile—Stanford, Jackson, won; Beard, Auburn, second. Time, 6:51⅘.

Five-mile free-for-all, first heat—Lee, Regal, won; Potter, E-M-F, second; Bell, Mason, third; Allen, Maxwell, fourth. Time, 7:27. Second heat—Peterson, Crawford, won; Lee, Regal, second. Time, 7:02⅘.

Five-mile, 40-horsepower class—Stanford, Jackson, won; Peterson, Crawford, second. Time, 7:11⅕.



RINGLER IN PULLMAN, WINNER IN CLASS RACE

Building New Hill Road at Algonquin

VIEW OF NEW ALGONQUIN HILL AT THE PROPOSED START

START OF GRADE ON THE NEW ALGONQUIN HILL

CHICAGO, Aug. 10—Something unique in the way of special courses is the hill road which is being built at Algonquin, Ill., for the Chicago Motor Club and which will be used by that organization for its fifth annual hill-climb on Friday, September 16. The club always has had trouble with Dundee county, where is located the Perry hill, which, in the past, has been used for the morning climb, and as the annual scrap bobbed up again this summer it was determined to give up Perry hill altogether. In order to do this, though, it was necessary to find some other course for the morning events. Algonquin itself came to the rescue and offered to build a hill road especially for contest purposes. This offer was accepted, and preliminary work started on a grade on the same hill up which the Phillips hill road winds. Hardly had the surveyor completed his task, though, than there came a clash of property interests, which caused a revision of plans, which was made last Sunday. Officers of the club visited Algonquin and discussed the matter with the officials of the town. While they were debating over the proposition Farmer Jaynes, who owns property south of the railroad tracks, became enthused and offered to permit his fellow-townsmen to build a road up the side of one of his hill lots. Further, he would charge them only a nominal rental and would give a 5-year lease. His proposition was such a good one that it was accepted at once. The Algonquin Hill-Climbing Association was formed by the merry villagers and now the road is in course of construction, to be finished September 1. It will be ½ mile long.

SEPTEMBER MEET AT SPEEDWAY

Indianapolis, Ind., Aug. 8—Drivers and racing cars are tuning up at the Indianapolis motor speedway preparatory to the races September 3 and 5, which will mark the close of the motor car season at the brick course, the last event being the national balloon meet on September 17. Entries for the motor races are reaching the speedway management in such quantities as to indicate that it will be the most important series of events given here. It is expected that a number of foreign drivers will drive in the September meet. The program for the 2 days includes twenty races for which money prizes and trophies worth $10,000 are offered. The speedway management is anxious to give its track first place as a mile record holder, and to induce the drivers to make an earnest effort to cut down the time on this course below the present point of :35:63, special inducements are offered for mile trials on September 3. If a fraction is shaved off the present record the driver who does it will receive $200. If the mark is lowered 1 second he will receive $300, and $500 will be given for a reduction of 2 seconds. Free-for-alls, handicaps, numerous classes for stock chassis and regular racing motors will be given, and among the long-distance events are 100 and 200-mile races. Two of the choicer prizes offered to drivers are the speedway helmet worth $50 a week to the winner, and the Remy grand brassard worth $75 a week.

BUICKS FOR GRAND PRIX

Flint, Mich., Aug. 10—Bob Burman and Louis Chevrolet are now working out their Marquette-Buick 100 cars in preparation for the two big classic events of the east, the grand prize race and the Vanderbilt cup race. With their big racers the Buick pilots are touring Michigan, Ohio and Indiana and putting their cars in the best possible shape. It is announced by officials of the Buick Motor Co. that the Vanderbilt contest may be the last in which Chevrolet will appear. The driver will take a position with the company as a head designer.

STAR TROPHY TOUR ENTRIES

Kansas City, Mo., Aug. 6—Nine additional entries in the Star trophies last week—three Buicks, three Kisselkars, a Speedwell, and two Kansas City Gleasons—brought the list up to twenty-eight cars. Three Cartercars, three Inter-States, three Overlands, three Brushes, three Great Smiths, two Cadillacs, another Maxwell, a Marmon, a National, and a Chalmers are guaranteed for entry next week, leaving quite a number of dealers still to be heard from. It is certain that the entry list will exceed sixty with a tour of 1,565 miles laid out through Missouri, Kansas, Colorado and New Mexico.

Among the cars entered are three Franklins, two Stevens-Duryeas, an Abbott-Detroit, Everitt, three Buicks, two Maxwells, a Speedwell, three Kisselkars, two Gleasons, two Auburns, a Warren-Detroit, a Reo, a Great Western, a Velie, and a Regal. The non-contesting cars are a Lexington, pilot; a Pennsylvania, pacemaker; and a Columbia, official car. A Stevens-Duryea was the pathfinder. It is interesting to know that so desired are these official cars that the concessions were given at a drawing at the club, wherein each participant was required to file a check for $500 for the pathfinder, $200 for the pilot, and $100 for

the official cars. These are prices, not forfeit deposits.

The dates are August 30 to September 8, for which a sanction was granted last week by the A. A. A. Entries are made to W. P. M. Stevens, secretary of the club, with the fee fixed at $10. The tour touches Missouri, Kansas, Colorado and New Mexico, with Raton, N. M., a noon stop, and Colorado Springs, Colo., a day and a half stop, as objective points. The trip has historic significance in that it passes over the ancient Santa Fe trail to New Mexico.

NEBRASKA ROUTE FINISHED

Omaha, Neb., Aug. 8—The World-Herald endurance run will be participated in by at least fifty cars, which is an increase of twenty over last year's event. The Auburn, which was chosen as pathfinder, has completed its trip, and reports the roads in fine shape for the run, which will be made on August 24-26. The run is to be made under the rules of the A. A. A. The route and mileage of the contest follows:

FIRST DAY, AUGUST 24.

Omaha	0.0	Riverton	90.6
Council Bluffs	4.0	Hamburg	100.4
Glenwood	23.0	Nebraska City	114.2
Hastings	36.4	Dunbar	123.6
Emerson	41.3	Berlin	132.0
Red Oak	51.1	Avoca	137.0
Essex	67.0	Eagle	154.2
Shenandoah	76.2	Lincoln	168.2
Farragut	84.0		

SECOND DAY.

Lincoln	168.2	Kenesaw	290.8
Emerald	174.2	Shelton	306.4
Pleasant Dale	181.8	Gibbon	312.4
Milford	188.8	Buda	320.7
Dorchester	201.2	Kearney	325.4
Friend	211.2	Sutton	244.5
Exeter	220.9	Harvard	256.5
Fairmont	228.5	Hastings	274.4
Grafton	235.7		

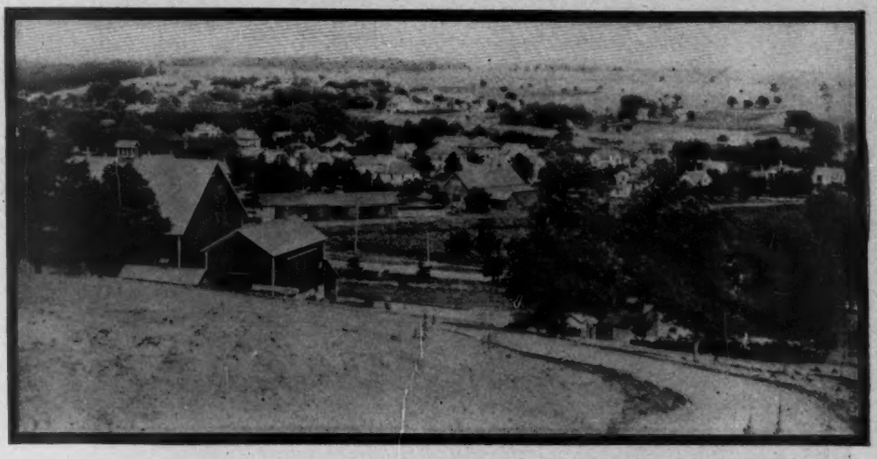
THIRD DAY.

Kearney	325.4	Columbus	434.4
Shelton	344.4	Benton	441.9
Wood River	352.5	Schuyler	450.4
Alda	362.1	Rogers	458.0
Grand Island	369.2	North Bend	465.4
Chapman	382.1	Ames	478.7
Central City	392.4	Fremont	481.7
Clarks	404.2	Valley	494.1
Silver City	415.4	Omaha	517.9
Duncan	425.4		

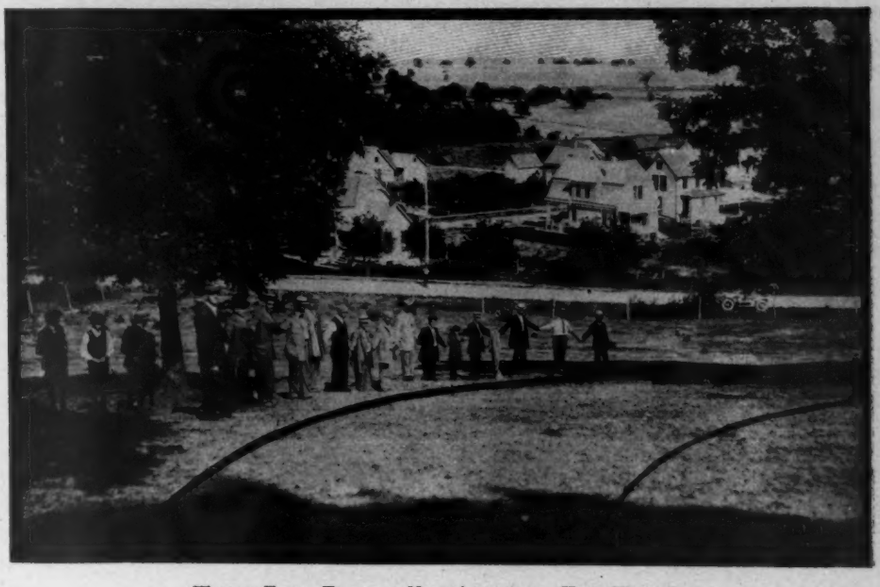
MYSTERY RUN THE LATEST

Indianapolis, Ind., Aug. 8—Under the auspices of the Premier Motor Mfg. Co. and of the Gibson Auto Co., a tour of mystery for Premier owners exclusively was run yesterday. The mysterious part was that in starting the drivers did not know the destination, the number of miles to be traveled or the running time that had been set for the time. Just before starting, each participant was handed a card on which he guessed the destination and estimated the distance and running time. The cars then followed a line of confetti, which led them to Springport, a run of 60 miles, the schedule allowing 4 hours for making the trip. No one guessed correctly the destination, but four tied for the distance, Emil Fertig, J. J. Darmody, J. F. Darmody and Mrs. J. F. Darmody. Mrs. S. A. Keeler and Mrs. Townsley tied on the estimate of running time. John J. Darmody, by lot, was awarded the prize, a clock, for estimate of distance, and Mrs. Keeler the prize for running time, a mirror.

Thirty-two Cars in the Munsey Tour



OLD ROAD RUNNING DOWN FROM TOP OF ALGONQUIN HILL



WHERE FIRST TURN ON NEW ALGONQUIN HILL WILL BE

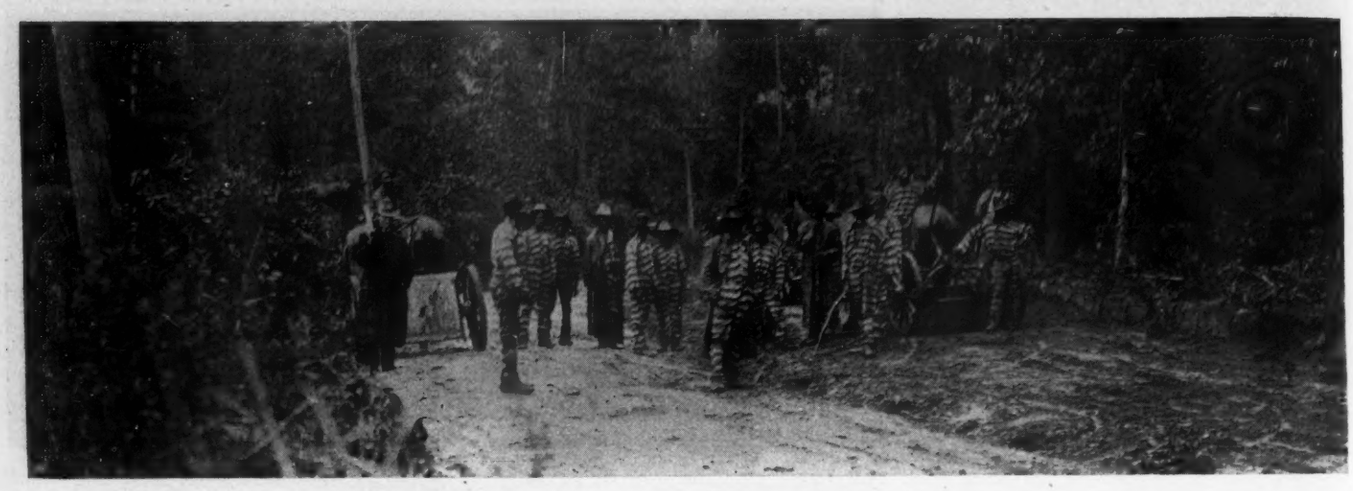
WASHINGTON, D. C., Aug. 6—When the entry list for the Munsey historic tour closed Friday night at midnight it was found that thirty-two cars had been nominatede to make the 1,550-mile trip. Factory entries were received for a Premier, Columbia, two Maxwells, Reading, Corbin, Spoerer, two Brush runabouts, Regal, Pierce-Racine, Krit, Enger, Great Western, Cino, Staver, Glide, Inter-State, two Washingtons, Kline and Matheson. Owing to its troubles with the contest board of the A. A. A., the Premier will be unable to start. The following cars were nominated by dealers: Crawford, Moon, Warren-Detroit, Stoddard-Dayton, three Fords, Maxwell. An Elmore was entered by a private owner. In the non-contesting class a Randolph baggage truck and a six-cylinder Reading were entered.

August 16 from Philadelphia to West Point, N. Y.	160.2
August 17 from West Point to New London, Conn.	167.8
August 18 from New London to Boston, Mass.	117.2
August 19 from Boston to Portland, Me.	140.8
August 20 from Portland to Bethlehem, N. H.	122.7
August 21, Sunday, lay-over at Bethlehem, N. H.	
August 22 from Bethlehem to Burlington, Vt.	102.8
August 23 from Burlington to Saratoga, N. Y.	200.5
August 24 from Saratoga to Binghamton, N. Y.	164.7
August 25 from Binghamton to Wilkes-Barre, Pa.	98.5
August 26 from Wilkes-Barre to Harrisburg, Pa.	115.8
August 27 from Harrisburg to Washington, D. C.	159.3
Total mileage	1,550.3

FRENCH SHOW PROSPECTS

Paris, July 26—That the next Paris salon will be the greatest in the show history of the French capital is the opinion of a member of the show committee. "There are more applications for space than for any previous show. Every concern of consequence in Europe seems to be anxious to be with us. Even those concerns which have been complaining against our rules and regulations will most likely be all among the rest to show their cars. If they don't, there are plenty who will be on the waiting list."

MANY ENTER THE EASTERN COMMERCIAL TEST



ROAD-BUILDING GANG NEAR HOUSTON ENCOUNTERED BY GEORGIAN PATHFINDERS

PHILADELPHIA, PA., Aug. 8—With a probability of seventy entries, representing many styles of commercial trucks and freight vehicles, the endurance contest under the auspices of the Philadelphia North American, which will be run August 12 and 13 from Philadelphia to Atlantic City, is attracting wide attention. The idea of the contest is to demonstrate the ability of the truck to make a time schedule with economy of fuel or current, and the newspaper has offered prizes aggregating $1,000 for the winners. The running of the affair is in the hands of the Quaker City Motor Club. The roads selected for the trial are in excellent condition, but in order to show that the cars can surmount ordinary road difficulties, several trying stretches of highway have been included in the itinerary. The distance to Atlantic City is about 62 miles, and under the plan that has been worked out the gasoline cars will be divided into four classes. In class A, a schedule of 15 miles an hour will be required. This class is the manufacturers' division for trucks of 1½ tons capacity and less. For class B, with capacity of from 3,001 to 5,999 pounds, a running time of 12 miles will be asked. In class C, from 3 to 4 tons, 10 miles an hour must be made, and in the same class, but for cars of over 4 tons capacity, the schedule calls for 8 miles an hour.

In the electric division, class A must make 12 miles an hour; class B, 10 miles, and class C, 8 miles an hour. An accurate record will be kept of the gasoline and oil used by the gasoline cars and of the electric current used by cars of that variety, and due allowance will be made in computing the result. The cars are all required to carry their advertised loads, and the figures on the proportionate consumption of power will give a basis of cost of transportation. The list of entries to date includes the following:

Manufacturers' Division, Class A, 1½-tons capacity and less—
Strenuous Randolph, Randolph Motor Car Co.; R. G. Shuert, driver.
Chase, Commercial Motor Car Co.; W. F. Wood, driver.
Chase, Commercial Motor Car Co.; R. L. Ferris, driver.
Franklin, Franklin Motor Car Co.; W. R. Coughty, driver.

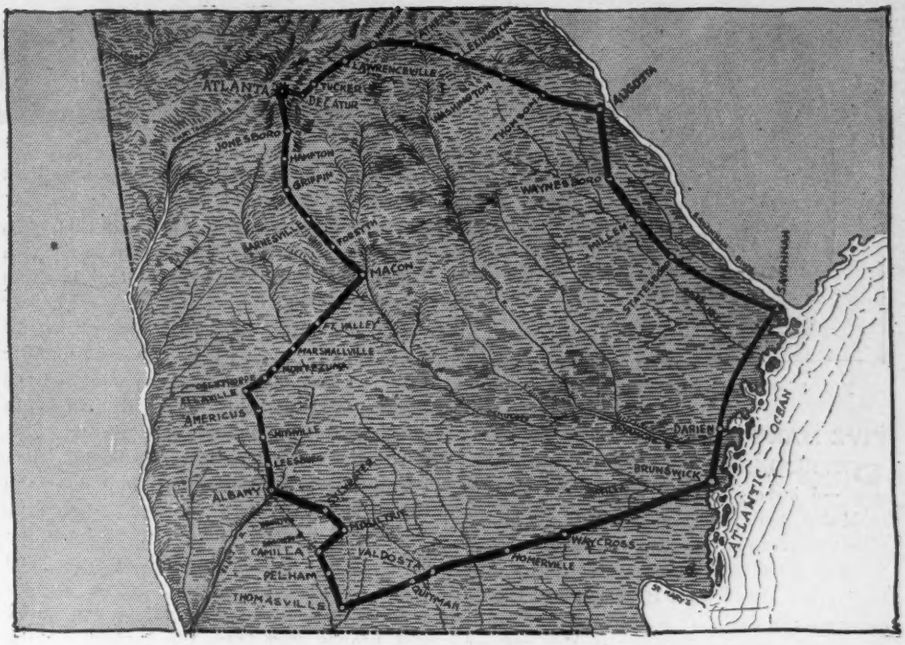
REO WHICH IS TRYING TO BREAK TRANSCONTINENTAL RECORD

Martin, Martin Carriage Works, E. L. Kraft, driver.
Martin, Martin Carriage Works; John M. Bowers, driver.
Torbenson, Torbenson Motor Car Co.; Allen Torbenson, driver.
I. H. C. delivery wagon, International Harvester Co., W. A. Bauer, driver.
I. H. C. delivery wagon, International Harvester Co.; Daniel B. Shock, driver.
Buick, Buick Motor Car Co.; Hubert Cato, driver.
Buick, Buick Motor Car Co.; William Thompson, driver.
Atterbury, Finnesey & Korber, M. Korber, driver.
Chase, Commercial Motor Car Co.; W. J. Burns, driver.
Rapid, Rapid Motor Vehicle Co.; James Parrey, driver.
Hartkraft, Hartkraft Motor Truck Co.; R. B. Lawrence, driver.
Class B, between 3001 and 5999 pounds capacity—
Garford, Garford Motor Truck Works; Mr. Ritter, driver.
Grabowsky, Edgar W. Hawley, G. G. Stranahan, driver.
Class C, 3 tons and above—
Frayer-Miller, Keiley Motor Truck Co.; Harry Weber, driver.
Schleicher, Schleicher Motor Vehicle Co.; Alfred Besser, driver.
Standard Gas and Electric, Standard Gas and Electric Power Co.; W. Hunsburger, driver.
Gramm, A. E. Gardiner; Archie Webb, driver.
Gaggenau, Benz Import Co.; P. W. Gaylor, driver.
Packers, Packers Motor Truck Co.; C. H. Smith, driver.
Private owners' division, Class A—
Autocar, Strawbridge & Clothier.
Autocar, John Wanamaker, R. Crossing, driver.
Autocar, Bailey, Banks & Biddle; John J. Frewen, driver.
Autocar, Bailey, Bankes & Biddle; Joseph P. F. Daly, driver.
Stoddard-Dayton, Bailey, Banks & Biddle.
Autocar, Lindsay Brothers; J. Horace Lindsay, driver.
Autocar, Consolidated Ruber Tire Co.; James Justice, driver.
Maxwell, Coca Cola Co.; A. A. Whitcomb, driver.
Chase, Freihoffer Vienna Baking Co.
Autocar, Cluett-Peabody Co.; John A. O'Neil, driver.
Autocar, Cluett-Peabody Co.; J. M. Beatty, driver.
Autocar, E. Bradford Clark; Frank Donnelly, driver.
Autocar, Fritz & Larue; Frank J. Scullin, driver.
Rowan, Wright & Co.; A. W. Kneer, driver.
Autocar, Michael del Collo; M. del Collo, driver.
Autocar, Eshelman & Craig; Elmer Baurichter, driver.
Autocar, Gurnse Butter Co.
Autocar, Gurnse Butter Co.
Autocar, J. E. Coggswell; E. L. Keller, driver.
Autocar, A. F. Bornot Brothers Co.; J. G. Carvill, driver.
Renault, A. F. Bornot Brothers Co.; G. Meyers, driver.
Autocar, Theo. F. Siefert; B. Siefert.
Autocar, J. S. Ivins Sons; H. V. Fancey, driver.

Cartercar, Kellogg Toasted Cereal Food Co.; Kennetty, driver.
Class B—
Reliance, J. B. Van Sciver Co.
Motor Commercial, Suburban Auto Express Co.; M. Plush, driver.
Class C—
Mack, Shane Bros. & Wilson.
Sauer, Baldwin Locomotive Works; H. Brostrand, driver.
Saurer, Baldwin Locomotive Works; Thomas Carberry, driver.
Saurer, Baldwin Locomotive Works; W. C. Hampton, driver.
Packard, John Wanamaker; W. Hampton, driver.
Reliance Truck, J. B. Van Sciver Co.
Alco, Gimbel Brothers.
Alco, Gimbel Brothers.
Frayer-Miller, Fleck Brothers; A. Jones, driver.
Electric vehicle division, Class A—
Commercial truck, John Wanamaker; John Dillon, driver.
Commercial truck, Bergdoll Brewing Co.; Fred Baurer, driver.
Class B—
General vehicle, Bergdoll Brewing Co.; Harry Wright, driver.
Commercial truck, John Wanamaker; Thomas Kelly, driver.
Commercial truck, American Brewing Co.; F. Flubacher, driver.
Class C—
Commercial truck, American Brewing Co.; Robert Rother, driver.

FLANDERS TOUR COMPLETED

Mexico City, Aug. 3—The long run of the Flanders 20 Under Three Flags car which left Quebec June 6 ended under the shadow of Popocatapetl here today. The car pulled into the city covered with mud after a fast day's run, the home stretch of which comprised the first good roads which have been met with in the republic. A dramatic feature of the arrival here was the fact that the car was piloted to the finish by W. J. Lane, the regular driver, who, in spite of severe illness which has afflicted him all through Mexico, has insisted against the advice of the physicians, on accompanying the trip to its end. Lane traveled ahead of the car through the greater part of Mexico, but was assisted to the wheel this morning and remained there. A big parade of E-M-F, Flanders and other cars met the Under Three Flags outfit near the city limits and the triumphal entry was one long to be remembered. A large popular demonstration occurred at the St. Charles IV monument which was passed en route to the garage of Mohler & DeGress. The Flanders is the first car to enter Mexico from Laredo and the first to traverse a large share of territory which was traveled from there to the end of the trip. The total mileage for the trip was 4,127—but a little longer than the shortest by rail between the two points.



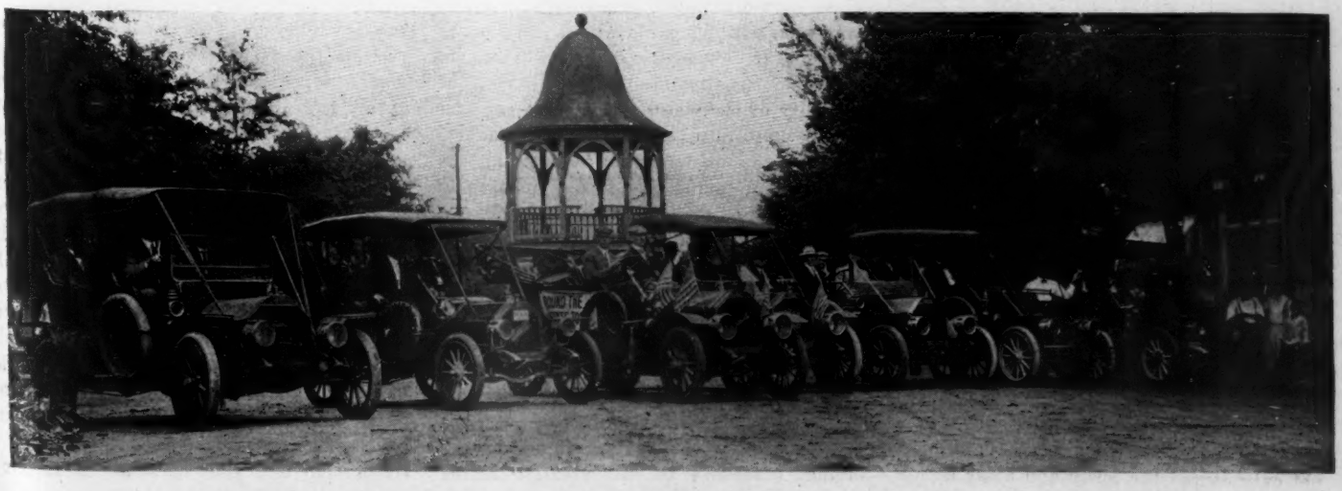
MAP OF PROPOSED RELIABILITY RUN PROMOTED BY GEORGIANS

PATHFINDING TRIP OVER

Atlanta, Ga., Aug. 5.—The Buick car which has been scouting out a route for a round-the-state run to be held under the auspices of several Georgia newspapers in the fall has returned. The scouts report that a route of slightly less than 1,000 miles in length can be arranged which will guarantee fairly decent roads all the way.

AFTER TRANSCONTINENTAL MARK

Chicago, Aug. 10—Starting from New York city at 12:01 o'clock Monday morning, L. L. Whitman and E. I. Hammond are driving a 1911 four-cylinder Reo across the continent in an effort to smash the Franklin's record of 15 days 2 hours 12 minutes. The Reo reached Cleveland at 6 o'clock Tuesday morning, 12 hours ahead of its schedule. It was at South Bend at 8 o'clock last night and at Geneva, Ill., at 4:30 o'clock this morning. At the latter point the car was 14 hours ahead of the schedule. Mr. Whitman made his first cross-continent trip from San Francisco to New York in 71 days. This was in 1903, in a five-horsepower single-cylinder runabout, with lever steering device, wire spoke wheels and single-tube tires, which was built by R. E. Olds, the designer and builder of the Reo. The following year Whitman lowered the transcontinental record in his run from San Francisco to New York to 32 days. This was again lowered to 15 days, 2 hours 12 minutes by himself with a Franklin six-cylinder, in 1906. This was a relay trip, night and day run, with the assistance of five men from the factory. The present record tryout is a night and day continuous run, alternated by Whitman and Hammond at the wheel, the only stops to be made between New York and San Francisco to be for taking on gasoline and oil



GEORGIAN PATHFINDERS WELCOMED BY MONTEZUMA MOTORISTS WHO ARE INTERESTED IN RELIABILITY RUN

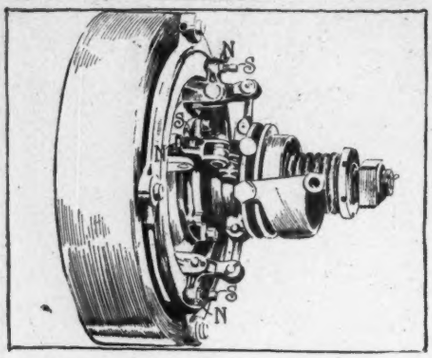


FIG. 1—SHOWING CLUTCH ADJUSTMENTS

The Readers'

EDITOR'S NOTE—In this department Motor Age answers free of charge questions regarding motor problems, and invites the discussion of pertinent subjects. Correspondence is solicited from subscribers and others. All communications must be properly signed, and should the writer not wish his name to appear, he may use any nom de plume desired.

FIVE MAKE A LOAD

PETERSBURG, VA.—Editor Motor Age—I have just read with much interest in Motor Age, issue July 7, page 42, an article on overloading cars. I have a Regal 30 1910 model touring car. Can Motor Age advise me about what load this car should carry on the roads of this section? Part of the roads are macadam, but the greater portion are unimproved, the general character of all being about one-half level, the other one-half hilly and rolling.—J. B. Andrews.

A load-carrying capacity of 2,000 pounds is claimed for your car, but it would by no means be practical to load it to this extent. It is designed to carry five passengers of an average weight of about 200 pounds each. It will carry more quite safely under favorable conditions; but it is just as unreasonable to load a five-passenger car with seven or eight full-grown people as it would be to mount two or three men on a horse, and this is putting it mild.

CLUTCH IMPROPERLY ADJUSTED

Stanley, N. D.—Editor Motor Age—When my new 40-horsepower car was delivered I noticed that on starting the car in low gear there would be a rasping, grasping sound, not continuous, but during the passage of the rear wheels through a certain part of the circle, at the same time the car would shake very perceptibly. The agent told me that was all right, that the car was new, but it does not get much better, and I would like to know if Motor Age can tell me the cause. The bronze plate of the clutch is worn down about ¼ inch in 3 months' driving, and I noticed recently that when one side is closely applied there is a space between the disks on the other side. I cannot get much satisfaction on these points from either the builder or the agent and would like to have the opinion of Motor Age on this.—J. C. Dunn.

The trouble with your car from the start was simply due to improper adjustment of the clutch dogs, of which there are four in number on the clutch employed in your car. This improper adjustment has caused your clutch to slip at certain points in a revolution and the constant slipping has not only caused the jerky and noisy action of the car, but has also caused the excessive wear of the phosphor-bronze disk or center ring.

To properly adjust a clutch of this type, a drawing of which is shown in Fig. 1, loosen the four lock-nuts N and back-up or unscrew the studs S until they all barely touch the outer disk, then draw them all up gradually, giving each the same number of turns, one turn each at a time until the proper adjustment is obtained. To begin with each stud should bear on the disk with slight pressure, the car should then be tried, and if the clutch does not take hold quickly enough or if it slips, give each stud another turn or two and try again, etc. If the bronze ring in your clutch is too badly worn, proper adjustment may be impossible unless you get a new bronze ring from the factory. With one disk worn as stated it should be replaced.

WHY POUND ON HILLS?

Porter, Ind.—Editor Motor Age—I just recently purchased a two-cylinder Rambler 1906 model, equipped with a Schebler carbureter and a Mossler timer. This car runs well, the only trouble I have is, that after running 3 or 4 miles, the motor gets so hot that it smokes all over the occupants of the car. The water in the radiator also gets hot after running a few miles. Will Motor Age please tell me how I can prevent this?

In a recent issue of Motor Age it was stated that in going uphill and the motor began to slow up or labor, the spark should be retarded. Now, as I understand it, the farther the spark is advanced the more power you will have or the faster you go; therefore, will Motor Age please explain why the spark should be retarded when you need all the power you can get?—Amateur.

The overheating of your motor is due in all probabilities to an accumulation of rust and sediment in the waterjacket, incrustations in the radiator, or an impediment to water circulation caused by a piece of an old gasket, gaskets with holes that are too small, or something of that sort. The ductility of the water through the radiator and perhaps also through the waterjackets might easily be tested by connecting the garden hose or the like to one opening in the radiator or jackets and forcing a stream of water through them. This might also have a beneficial cleansing effect; and as it would necessitate the disconnection of the piping, the gaskets could also be examined at the same time. Great care should be taken in fitting gaskets to a thermo-syphon system, so that the hole when the gasket is compressed does not become smaller than the diameter of the piping, otherwise it will greatly inhibit the flow of the cooling medium and cause overheating. The cylinders may be cleaned by draining them and drying them out thoroughly, then scraping the jackets internally by attaching a bunch of steel wool to a wire and working it back and forth through the jackets.

You are not quite right as regards the relation of spark advance to power. The power of a motor increases as its speed increases, and the greater the speed the greater the spark advance permissible and necessary. In the operation of a gasoline motor the explosion, or power impulse let us say, does not occur instantaneously upon production of the spark, it takes a variable length of time for ignition and combustion to become complete, and it is for this reason that spark control is necessary. The length of the ignition and combustion period varies greatly with the proportion of the mixture. If you do not retard on a hill your motor will pound because of the speed dropping and the full power of the explosion acting on the piston before it is to the top dead center.

REMOVING THE CARBON

Grinnell, Ia.—Editor Motor Age—Will Motor Age inform me, through these columns, if putting kerosene in the cylinders of a motor is of any benefit? If so, what does it do, what is the proper amount to use, and is it put in through the priming cups or by removing the spark plugs?—H. H. Adams.

Kerosene is beneficial in that it loosens carbon accumulations by cutting the binder which is composed of gummed-up or overheated lubricating oil, and if permitted to seep down past the piston rings it attacks similar possible accumulations and renders the action of the rings more efficient. Some motorists advise a tablespoonful or two about once a week, and others are in favor of a half teacupful about once a month. In each case it is allowed to remain in the motor over night. In using large quantities at a time, the cylinder oil in the crankcase of the motor should be drained out and replaced with fresh oil in the morning before the motor is started. When small quantities are used replacement or freshening of the oil supply is only necessary about once a month or so. If the kerosene can be most conveniently introduced into the cylinder through the priming cocks, use them; otherwise remove a spark plug and pour or squirt it through the opening thus obtained. It is advisable

Clearing House

EDITOR'S NOTE—To the Readers of the Clearing House columns: Motor Age insists on having bona fide signatures to all communications published in this department. It has been discovered that the proper signature has not been given on many communications, and Motor Age will not publish such communications, and will take steps to hunt down the offenders of this rule if it is violated

to turn the motor over a number of times slowly by hand when about half the allotted amount of kerosene has been put into the cylinders. This will insure that some of it comes in contact with the rings. There are many makes of carbon removers on the market which are giving excellent results in the removal of carbon from cylinders.

CAUSES OF MOTOR MISSING

Wellington, Kan.—Editor Motor Age—Last fall my 1909 model 10 Buick began to miss and jump badly when running slowly. I found when the switch was left on the dry cells it would not miss. It continued to do so for several weeks. After carefully going over and readjusting all parts of the carbureter and the wiring system, which I had done repeatedly before, the miss disappeared, and I naturally concluded it was a fault of adjustment. After running several months smoothly the miss has again appeared and I am unable to find it. Is it the magneto, or where shall I look for it? The spark in the second and third cylinders is always much weaker than the others.—Puzzled.

Motor Age would like very much to know how you learned that the spark in the second and third cylinders is weaker than in the others. If you mean that the explosions are weaker, your trouble may be due to poor compression caused by a leaky valve or stuck piston rings. Turn the crankshaft over slowly by hand to test the compression, and if the second and third cylinders are weaker than the others, have the valves ground. After the valves are ground and the motor has been run a little, test the compression again; if it is still weaker in these cylinders, which will be hardly probable, and if you are satisfied that there is sufficient clearance between the valve-stems and push-rods, you may begin to suspect the piston rings. Give the cylinders a generous dose, half a cupful each, of kerosene or a carbon remover, and let it seep down past the rings over night. In the morning turn the motor over rapidly a few times or run it for a minute or 2, then drain the oil from the crankcase and replace it with fresh, clean oil. If this treatment does not bring about a vast improvement, new rings may have to be fitted. It is possible that the trouble is caused by water in the carbureter, this may be removed by draining the float-chamber and allowing about half a teacupful of gasoline to run out. It is also quite likely that a little adjustment of the magneto is necessary; the contact points of the circuit-breaker may not be separating sufficiently, they may be burnt or pitted, or the plate L, Fig. 2, may be badly worn. The circuit-breaker, as illustrated, consists of a V-shaped piece of metal M, between the arms of which turns the cam C on the end of the armature-shaft. This cam is elliptical in shape and the wider extremities strike against one of the arms A of the V throwing it sideways, thereby breaking contact between the points P on the opposite arm A1, and the threaded screw passing through the metal box. Where the armature cam strikes upon the arm A is fixed a metal plate L. When this becomes worn, the points P on the other side, owing to the depression from wear, will be brought closer together, making the engine miss at low speed. This, generally, can be remedied by pressing in and releasing the clip I and screwing the adjusting screw T outward. If the wear of the plate is too great to be so corrected a new plate must be fitted. The V-shaped part of the magneto may be taken off by removing the nut or stud N, and the plate L can then be readily removed by cutting off the heads of the two copper rivets with which it is secured to the arm. A new plate and rivets, or new platinum points may be obtained from the factory or a local agent at a reasonable cost.

L OR T-HEAD MOTORS

Clinton, Ia.—Editor Motor Age—Kindly answer through the Readers' Clearing House the following questions:

1—Has the Renault a progressive or selective transmission on any models?

2—Which is considered best, a full or semi-floating rear axle, and an I-beam or tubular front axle?

3—Which is considered better, the L or T type of cylinders?

4—Which is considered the better position of the flywheel, in front or at the rear of the motor?—Interested.

1—The Renault cars employ a very satisfactory type of progressive transmission.

2—A floating type of rear axle is preferable on account of the accessibility of its moving parts in case of repair. As far as driving efficiency is concerned, the semi-floating type might be said to be a shade the better design of the two. This because of the rigid connections between the driving-gear, shafts and road wheels. A successful floating type of rear axle requires a little more careful selection of material and better workmanship than a semi-floating type in order to be of equal efficiency, therefore it is more expensive to manufacture. I-beam axles are stronger and therefore most popular, but tubular

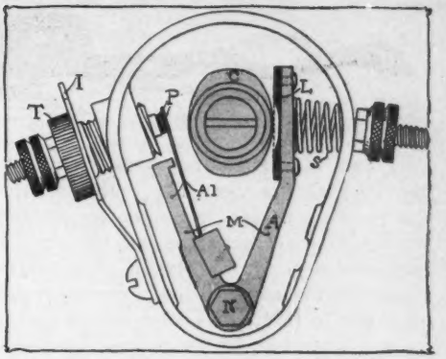


FIG. 2—REMY CIRCUIT BREAKER

axles have advantages on light cars, and if of sufficient size are entirely satisfactory on large cars.

3—The L-type of cylinder is more efficient and easier to make, but the T-type cylinder renders a motor more accessible and gives it a more symmetrical appearance.

4—As to the position of the flywheel, the better position is a question of design; in a unit power plant of large dimensions employing a multiple-disk clutch, the front end of the motor is a very good place for the flywheel; and in cars using a large cone type of clutch, the rear end is by all means the most practicable location.

LEFT-HAND CONTROL ADVANTAGE

Cincinnati, O.—Editor Motor Age—Through the Readers' Clearing House will Motor Age answer the following questions?

1—How does the Renault light delivery car transmit the power to the rear wheels?

2—Does Motor Age favor left-hand control?

3—What should be the speed limit of a 1,000-pound commercial car using pneumatic tires?

4—What should be the speed limit of a four-cylinder motor for light delivery work?

5—Are pneumatic tires advisable and are they more economical for a 1,000-pound delivery car?

6—What are the detrimental features on worm drives having a rear axle reduction of 5 to 1?—C. Biederman.

1—All Renault cars are shaft-driven.

2—Left-hand control is steadily increasing in popularity. If concerted action between the majority of the large motor car manufacturers could be brought about, and the change thus effected, there is little doubt but that the motoring public would soon become accustomed to the change and its advantages realized. The advantages of left-hand control, that is, with both the gear-shifting and emergency-brake levers as well as the steering gear at the left, are: That the driver is not required to step out into the street when alighting; and his range of vision while driving is greatly increased. Driving on the right as is customary in America, it is possible in city driving to conveniently look back around the right side of the car when one desires to make a turn to the

left and thus avoid collisions with fast-moving vehicles near the center of the road. This is not necessary in turning to the right, for one has but to hug the curb and slow down. Turning to the right is also facilitated as one has a greater range of vision in turning a corner, and the same is true when one desires to pass a vehicle moving in the same direction. It is customary to pass to the left of a vehicle moving in the same direction, so that if the driver is on the left-hand side of his car a vehicle that might be coming in an opposite direction could be much more readily seen and an attempt to pass which otherwise might cause a head-on collision would be avoided. These advantages are also present in country driving, although some are in favor of sitting on the right so that they can see more readily how close to the ditch they are running when turning out to allow an oncoming car to pass. This is not a strong argument in favor of the right-hand control, however, for one must gauge the distance required for the other car to pass safely and it should be easier to judge the distance between the outside road wheels and the edge of the ditch which is under your control entirely than to judge the possible clearance between the inner side of the car and the oncoming vehicle.

3—This will depend upon the use to which the car is to be put, road conditions, etc.; a speed of 25 miles is a reasonable limit for ordinary conditions.

4—To insure long life a maximum motor speed of 1,300 or perhaps 1,600 revolutions per minute should be a reasonable limit.

5—It is claimed, that for light delivery service such as you mention, pneumatic tires are most practical. Road conditions and service, however, would also be a factor worthy of consideration in this case.

6—The only feature that might be considered detrimental in case the worm drive of such ratio were to be employed in a vehicle with very small wheels, would be the large size of the worm wheel.

MOTOR MISS WHEN IDLE

La Harpe, Kan.—Editor Motor Age—Will Motor Age kindly advise me on the following? What can be done to overcome the irregular running of an engine when working idle, or pulling slowly? The engine will hit perfectly when working hard or speeded up.—E. J. Bondy.

Your trouble is most probably due to an air leak, either around the connections of the inlet manifold to the cylinders or carbureter, in the inlet manifold itself, or through the valves or valve-stem guides. A defective gasket or loose joint is most likely the cause. The best way to test for this trouble is to bind all such connections with cloths saturated with gasoline while the motor is running slowly and missing. When the missing ceases the trouble is located. If the missing fails to cease when all connections have been covered, look elsewhere for the trouble. The carbureter may be slightly out of adjustment, but do not attempt to readjust it unless you are familiar with its construction. There might also be a leak around a spark plug, or if the valves are in cages, a gasket between a cage and cylinder may be burnt out, causing a leak at that point. If the make and model of the car were given a more definite answer could be given.

THROTTLE TOO LOW

Madison, Me.—Editor Motor Age—Will Motor Age tell me what causes my new model 10 Buick to skip. It never has run right. It will run O. K. until I get the throttle advanced about 2 inches on the quadrant, then it will jerk along as though but one or two cylinders were firing. If I retard the throttle from that point it will continue to skip, but if I advance it about half way on the quadrant, the other cylinders will soon take hold and fire as they should. I can advance the throttle when running light without skipping, but when I advance to that certain point under a load it begins to skip as I have mentioned. I have had it looked over a number of times but the trouble has not been located.—Maine.

Your trouble lies in the fact that you are expecting your car to do something that it is not designed to do. You are trying to run 4 or 6 miles an hour on the high gear when the design of the car intends that the low-speed gear should be employed for this speed. When your motor is subjected to an increased load the speed of the motor is considerably reduced; and if running on the magneto, it is possible for the motor to run so slowly that the magneto current generated will not be of sufficient strength to produce a strong and timely spark in the cylinder. This will cause misfiring, and the misfiring is the cause of the jerky movements of the car. When your car begins to jerk on the high gear that is the time to come down to the low gear or else throw out the high-speed clutch for a second or two and give the motor a chance to pick up speed and stop missing.

TO SET REMY MAGNETO

Reno, Nev.—Editor Motor Age—Relative to the query signed X in the Readers' Clearing House, Motor Age, issue July 21, as to setting a Remy magneto. When received from the factory there is a particular relation obtained between the distributor movement and armature position, so that when the spark is advanced fully the break at the interrupter or spark is obtained at the armature position of greatest current intensity. In setting the magneto, therefore, it is desired to correctly set the distributor, and this in itself sets the armature also by the factory setting between the distributor and armature. The contact point then should be set last. Correctly timing the magneto is done by the distributor, the spark by the circuit-breaker, hence the caution "Do not set the magneto by the breaker." Any attempt to do so would in nine cases out of ten cause the magneto to work through a very small portion of spark advance permissible with a magneto, due to the breaker breaking outside of the armature field. To correctly set the Remy, set any cylinder at top firing center, set the circuit-breaker housing vertical, move the distributor so that the line on the distributor blade coincides with the high-tension lead wire in the distributor case—any one of them—then lock the pinion gear to the motor in this position. With the circuit-breaker housing still vertical, move the circuit-breaker screw until the points barely separate. Connect up the spark plug wire from the cylinder magneto was set to, to the lead distributor was set to, and the rest of the plug wires in the following order of cylinder firing in the direction of the rotation of the distributor.—W. R. Harlan.

POINTS REGARDING MAGNETOS

Atlantic, Ia.—Editor Motor Age—Will Motor Age, through the Readers' Clearing House, kindly answer the following questions concerning magnetos?

1—In Motor Age, issue of July 7, in the Readers' Clearing House, under the heading "Points About a Magneto," it is stated that the Remy magneto does not have to have a spark gap, since it is of the low-tension type. Why does the Splitdorf have one? Is it not also of the low-tension type?

2—Since the Remy magneto has a push button to make and break the primary circuit, is not a car equipped with this magneto more apt to start on spark than one equipped with a Splitdorf which has not a push button provided, that the con-

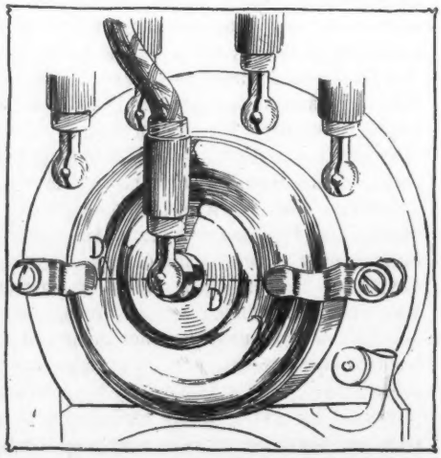


FIG. 3—REMY DISTRIBUTOR BOX

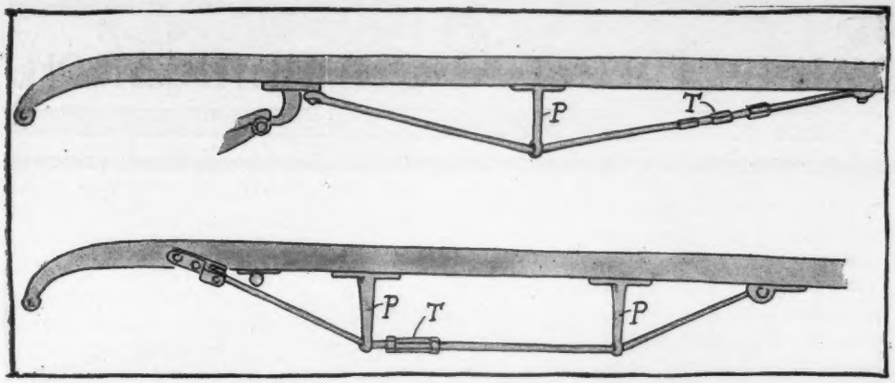


FIG. 4—METHODS OF REINFORCING SIDE MEMBERS OF FRAME

dition of the gas in the cylinders of the two cars was as favorable in one as in the other.

3—Is this right? Since the Splitdorf magneto has no push button, one could only start on spark when the contact points in the circuit breaker happened to stop in contact with each other.

4—In Motor Age, issue July 14, in the Development Briefs, concerning the Bosch horizontal coil, it states, "An important difference in this horizontal coil is that it is possible to start the engine no matter what position it comes to rest." Is not this presuming that the condition of the gas in the cylinders is right for starting on spark? And is not this made possible by the push button and cannot this statement be also made concerning other magnetos having the push button, as for instance the Remy?—YZ.

1—The spark-gap of the Splitdorf ignition system is not on the magneto, but on top of the coil, which is generally located on the dash of a car. The object of the spark-gap in any jump-spark or high-tension ignition system is to provide a path for the high-tension or secondary current in case a secondary cable should become disconnected from the spark-plug or magneto. If connection between the magneto and sparkplug were broken and no spark-gap or other path is provided by which the circuit can be completed, the current in the secondary circuit may be completed, the high-pressure or high-tension current generated in the secondary winding is liable to burst the insulation and cause serious damage thereto. Electric current always follows the path of least resistance, and in an ignition system in good working order, it is intended that the path of least resistance of the secondary current should be across the gap between the points of a spark plug. However, as cables are liable to become disconnected almost all systems are provided with either a regular spark-gap or some construction that will serve the same purpose. In high-tension magnetos, that is, magnetos from which a high-tension current is obtained without the use of an auxiliary coil, as the secondary winding is an integral part, the spark-gap is also an integral part. In the Remy magneto, which is a low-tension type using an auxiliary coil to transform its current into high-tension, there is no regular spark-gap; but it is so designed that in case a high-tension lead from the distributer to a plug were to be disconnected, the spark would jump from the high-tension ball terminal of the wire leading from the coil to the distributer to one of the blade-springs which hold the distributer cover in place. The path of the spark is indicated by the dotted lines D, Fig. 3.

2—Theoretically, starting on the spark should be facilitated by the push button, but it is claimed that similar results can be obtained in a system which has no push-button by simply making and sharply breaking the primary circuit by working the switch in and out of contact on the battery side. Starting, however, would be in favor of the push-button system, as it is on a shunt circuit and independent of the circuit-breaker.

3—In the Splitdorf system, if the motor does not happen to start on the spark when the switch is turned on to the battery side, sparks may be produced in the proper cylinder by manipulating the spark-control lever, and thereby making and breaking contact between the points of the circuit-breaker.

4—Yes, it would be impossible, however efficient the spark might be, to start a motor on the spark if the condition of the gas in the cylinders and the balance of the engine were unfavorable. The chief advantage of the Bosch coil to make and break the primary circuit is that it has a vibrator, while the Remy only has a hand-operated push-button.

REPAIRING A FORD SIX

Cumberland, B. C.—Will Motor Age please tell me how to make a few repairs on a six-cylinder model K Ford car built in 1906.

1—Will Motor Age please tell me how to take the lost motion out of the steering wheel which is a compound gear arrangement placed just under the steering wheel? I think that the most of the lost motion is in these gears.

2—How can I straighten up a sagged frame and keep it up in line, as I am convinced that my frame is sagged considerably lower than it should be? The starting crank comes through the radiator and the frame is so low on the right side that the crank bears down so heavily that it is all I can do to turn it over, and if I place the jack under the frame just at the dashboard and jack up the car till it looks straight I can turn it over much easier.

3—What would Motor Age advise me to do to stop overheating. I already have cut the gasoline down just as low as I can without causing backfiring through the carbureter, and I also have advanced the timer so as to make a spark as early as possible without causing too much back kick in starting, but the water boils and causes steam to fly from the radiator cap if I run ¼-mile in low gear and sometimes the motor will do this same thing running in the high gear.

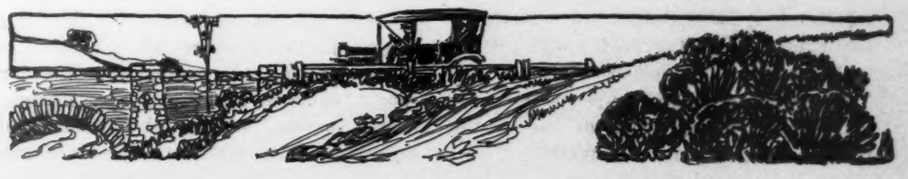
4—What is the horsepower of this machine, and can Motor Age give me some idea of what the car should climb in the high gear?—Charles Hugh Grant.

1—If the lost motion is in the gears the remedy is to fit new gears; if it is in the bearings they may have to be rebushed; if it is in the joint of the connecting links they, too, will either have to be rebushed or new pins fitted or both. A little lost motion in all of the above mentioned places may make considerable lost motion between the steering wheel and the road wheels. It is a case of "every little bit added to what you've got makes just a little bit more," or "little drops of water make a mighty ocean," etc.

2—Have truss rods fitted to the side-members of the frame as indicated in Fig. 4. You may use a truss-rod with one king-post P opposite the dash of your car, as indicated in the upper figure of the illustration, or with two king-posts on either side, before and behind, as indicated in the lower figure. The turn buckles T being used to maintain proper alignment.

3—Motor Age would advise that you consult the factory relative to the overheating and it will undoubtedly be able to give you the best advice in the matter. It is most probable that you will require a radiator of a larger size, and the company is in a position to furnish this on perhaps an exchange basis that will meet with your satisfaction.

4—It is claimed to be a 40-horsepower motor.



Manufacturers' Communications

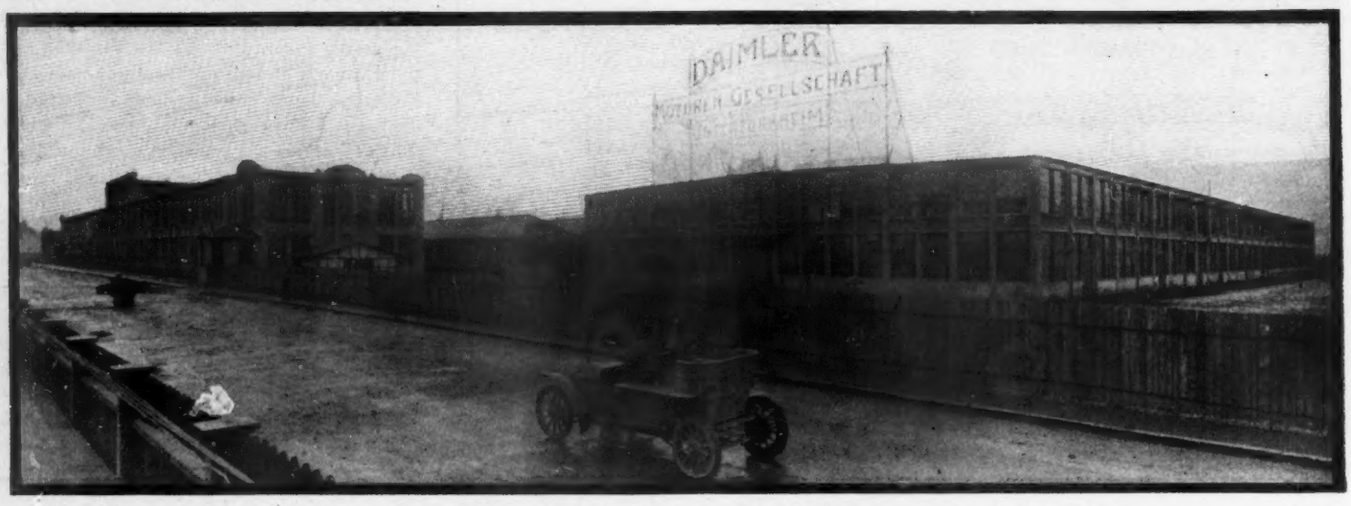


FIG. 1—FOUR-WHEEL MOTOR COACH USING DAIMLER MOTOR AS IT APPEARED LAST CENTURY

BERLIN, GERMANY—Editor Motor Age—In view of the erroneous opinions held in many quarters as to the invention of the motor car, we propose to place before the readers of Motor Age a short account of Daimler's life and work, from which Motor Age readers doubtless will infer that credit for the priority of this invention belongs to him. After serving in Alsace a practical apprenticeship in machine construction and studying the art at the Stuttgart technical high school, Daimler worked as an engineer both in Germany, France and England. From 1872 to 1882 he was technical manager of the Otto and Langen gas motor factory at Deutz, where he had an opportunity of realizing the special suitability of internal combustion motors for the propulsion of vehicles. In 1882 he erected his own workshop at Cannstadt. He therefore conceived plans for the construction of motors specially designed for this purpose, and in 1883 he erected at Cannstadt a workshop for the construction of motors and vehicles of every kind, beginning in 1883.

The first experimental vehicle, tested for the first time on November 10, 1885, was a bicycle propelled by a ½-horsepower kerosene motor, mounted below the seat between the legs of the cyclist, the drive being transmitted by a belt to the rear wheel. Though this primitive design, Fig. 2, in the light of modern ideas seems rather clumsy, it still comprised a number of details which so far have proved most valuable, namely, the vertical high-speed motor, ignition without slide valves, etc. On March 4, 1886, Daimler then tested at Esslingen the first four-wheel motor coach, with the motor in the center of the car.

This coach with its iron-rim wheels was the first four-wheel coach driven by the Daimler motor after the bicycle.

Daimler's Motor Priority

In 1889 the inventor then exhibited a more lightly constructed four-wheeled motor steel cycle for two passengers, which made an impression. At the same time he reconstructed the motive part of his first coach so that it might be capable of location close to the rear driving wheels, below the bench. This type of car, in spite of the unwieldly impression produced by the big motor case suspended at the rear, and which left nothing to be seen at the front, was preserved for a considerable length of time in the construction of large cars. It bore a striking likeness to the old-fashioned mail coach. The alteration then introduced by locating the motor in a special housing, in front of the driver's seat, therefore was a lucky idea, credit for which also is due to Daimler, who thus emancipated the car from the traditional forms of the horse-driven vehicle, giving it the characteristic shape now in use.

In order to show the priority of Daimler's invention, we would refer to his fundamental German letters patent No. 28,022, of December 16, 1883, relating to his motor specially designed and invented for motor vehicles, and which may be said to form the real and elementary basis of all self-propelled vehicles.

His German patent No. 36,423, of August 29, 1885, then covers a "bicycle with gas or petroleum as a prime mover," motor cycle, motor sledge, motor car, etc., inclusive of their motors, and even motor-propelled airships in 1889. A third patent, No. 39,367, of October, 1886, then relates to ship propulsion always by the same motor, and is followed by a number of further patents in all countries. The first should, however, be considered as a fundamental patent, settling the question of priority, as no similar motor especially suited for the propulsion of large and small sized vehicles—that is, no really practical high-speed motor—had so far been in existence. The German patent is No. 28,022, December 16, 1883, and the United States patent No. 313,923, March 14, 1885.

According to the second patent, the gas or petroleum motor is arranged below the seat and between the two axles of a single-track cycle or sledge frame. In Dingler's Polytechnisches Journal, volume 297, page 125, is found a description of this two-wheel motor vehicle. Letters patent covering it was granted on August 11, 1886, No. 36,423.

Benz, on the other hand, had his patent filed on January 29, 1886, under No. 37,434. The patent was granted on November 2, 1886, and related to a vehicle driven by an ordinary petroleum motor, whereas a specially constructed motor was used in the Daimler vehicle. Again, whereas Daimler's vehicle was a bicycle, the Benz patent related to a tricycle.

As far as the writer is aware, Daimler also was the first to start experimental runs with a motor-propelled vehicle, steering for the first time on November 10, 1885, the motor bicycle above referred to through the streets of Cannstadt. On March 4, 1887, a four-wheel Daimler motor coach then made its first public experimental journey through Esslingen after preliminary experiments at the factory had been started in 1886.

In the Daimler patent of August 29, 1885, there is, moreover, represented beside the low-wheel bicycle, a motor-propelled sledge. Daimler's patents have been gradually accepted since 1883 by about fifteen countries and their colonies, the following patents having been granted in the United States:

No. 313,923, August 24, 1886; filed March 17, 1885—Gas engines, fundamental patent.
No. 334,109, January 12, 1886; filed in

1885—Motor engines worked by combustible gases or petroleum, fundamental patent.
No. 347,160, August 10, 1886—Power-driven vehicle.
No. 349,983, September 28, 1886—Motor engines.
No. 355,594, January 4, 1887—Apparatus, etc.
No. 361,931, April 26, 1887—Explosive gas-marine engines, motor boats.
No. 376,638, January 17, 1888—Engine-driven vehicles.

From the above will be clearly seen that Daimler should be considered as the founder of car construction.—H. K.

MARMON'S RACING PLANS

Indianapolis, Ind.—Editor Motor Age—The Marmon will not be seen on the mile horse tracks again this season. Until the end of 1910, at least, and probably for all time to come, the cars will be raced only on the roads and special speedways. We are not opposed to mile track racing on the courses made for horses. It is not a question of reflecting on such sports with us, but simply a matter which involves results. We do not see where permanent results may be derived from track racing—especially the meets which are quickly arranged and which have no national value. So many race meets are announced which do carry national value that we are too busy to enter the smaller affairs. Consequently, we are out for this season. Racing on the mile tracks has big local value. That has been thoroughly demonstrated, not only by our drivers but by others. Only in few instances, however, do such races attract national attention. The New Orleans mardi gras meets are examples of the important mile track events. The track is properly oiled and prepared for it. But at no other meets are tracks oiled. It is admitted that dust provides the great danger of such sport. Our cars have been very successful on mile tracks, but with the Elgin road races, the September speedway meet, the Vanderbilt cup race, the Fairmount park cup race and the grand prize events before us, we have no time to take part in the mile track events.—Howard Marmon.

LOOKS FOR BIG FALL TRADE

Detroit, Mich.—Editor Motor Age—There is no question but that a certain amount of anxiety that has prevailed all along the line within the past 2 months in the motor car industry has been justified, but the conditions which have brought about this anxiety have been the logical result of a certain trend of events which have not been under the control of the car manufacturers. In the past the motor car business has been a season business, that is, the manufacturer attempted to build a large number of cars in 2 or 3 months during the selling season, with always the same result—that it was found absolutely impossible to fill orders. This year the majority of manufacturers ran their plants at full force during fall and winter, storing up some cars with the expectation of being able to come nearer to filling orders during the spring season by drawing on this storage stock. Without doubt this would have been a wise move had it not been for the exceedingly inclement weather that prevailed during the spring and early summer months and which made it impossible for the agent to dispose of cars, as he could have done readily had the weather been normal. The factories, however, have been running at full force until this year's production was practically completed, which in most cases was much sooner than expected, owing to the early start made by the different companies. This, therefore, necessitates a temporary decrease in the number of cars produced daily by the manufacturers until the 1910 season has been ended, and until they can get ready for the 1911 models.

A recent trip that I made through the east and west, taking in all the large cities, showed us conclusively that the car business really is in a healthier state than ever before. The banks, it is true, have discouraged the farmer and the small agent by refusing loans on anything pertaining to motor cars. The wonderful crops in the west have enabled the farmer—and, of course, the people with whom he comes in contact—to buy cars without recourse to the bank, and, as the farmer looks upon the car now as a necessity and not with the feeling of antagonism shown in former years, there is no question in my mind but what the fall purchases of machines will be greater than ever before known.—Fred W. Haines, Regal Motor Car Co.

FRENCH EXPORTS

Paris, July 26—During the first half of 1910 the motor export business of the French manufacturers has increased by $2,336,000 over the corresponding 6 months in 1909, while the imports of foreign-made cars also have increased, but only to the extent of $49,800 worth. The total value of the export end of the French industry for the first 6 months of 1910 is $17,057,400, whereas last year it was $14,721,400. Great Britain still is France's best customer, having purchased $6,567,000 worth, or $53,800 worth more than last year for the same period. Thus far this year the French sent to the Belgians $3,289,000 worth of cars, which is $1,527,800 more than for the same period in 1909. The business with the United States shows a big falling off. Last year in 6 months the total value of the business amounted to $926,200, while this year in the same time there has been a falling off of nearly 50 per cent, the total being only $521,400. The importation of American cars and parts also shows a heavy decline, the total being only $53,800, as against $73,400 in 1909. Great Britain more than doubled its exports to France, the latter country taking $222,000 worth of British made cars thus far this year, as against only $101,800 last year. A large percentage of the exported cars were industrial vehicles. Thus it is recorded that the United States bought $25,000 worth, Brazil, $56,400, Argentina, $60,000, England $36,600, and Algeria $53,800. Few such vehicles were imported into France.

GOOD ROAD FOR ST. LOUIS

St. Louis, Mo., Aug. 8—At the regular meeting of the Motor Accessories Association of St. Louis, a movement was put on foot which practically insure the improvement of the roads connecting St. Charles rock road to the St. Charles bridge. This will give an outlet to St. Louis motorists to St. Charles county. At this meeting, A. N. Stanley and O. O. Petty were appointed a committee from the association to assist in the entertainment of the American Automobile Association during the good roads convention here, October 5, 6 and 7. A dinner was served and the principal address was made by George Lang, Jr., good roads correspondent for the department of agriculture, who went into the details of road-building in the vicinity of St. Louis, and urged the necessity for greater activity along this line.

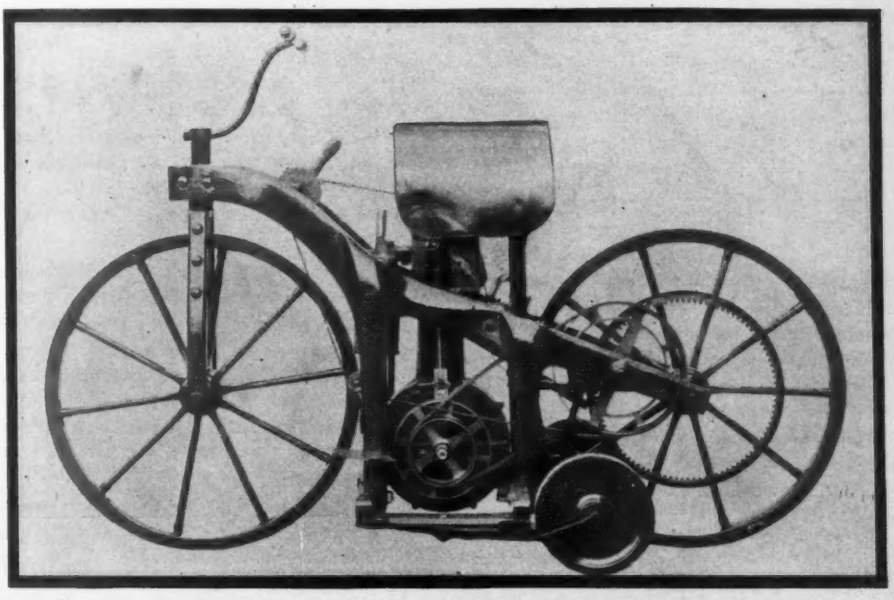


FIG. 2—DAIMLER FITS MOTOR TO BICYCLE IN 1885

FOUR FRANKLIN AIR-COOLED MODELS

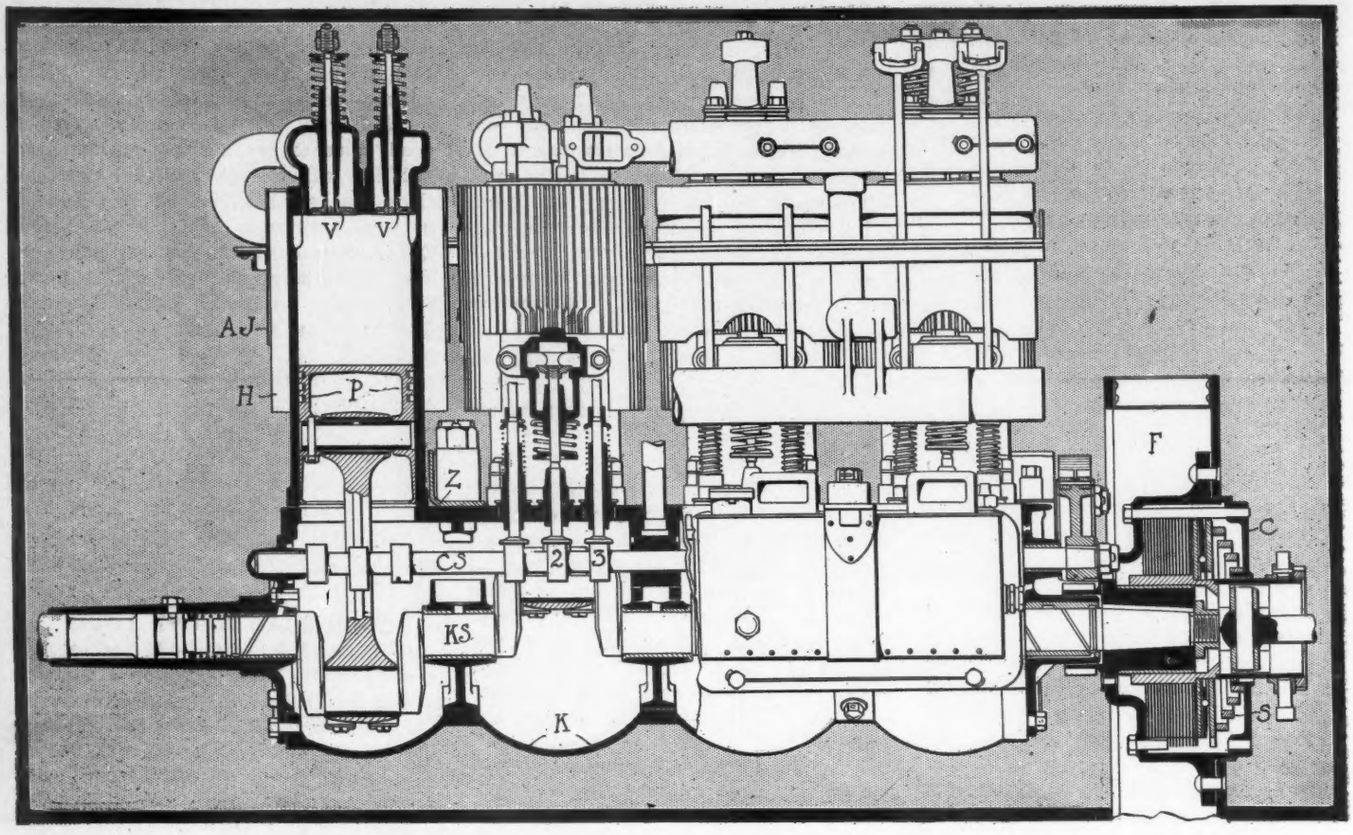


FIG. 1—SIDE SECTION FRANKLIN MOTOR SHOWING SEPARATE INTAKE AND EXHAUST VALVES

FOR 1911 the H. H. Franklin Mfg. Co. will make four instead of three models, these being: G, four-cylinder 3⅜ by 4 bore and stroke; M, four-cylinder 4 by 4 bore and stroke; D, six-cylinder 4 by 4; and H, six-cylinder 4½ by 4½. Of these four M is a new model, not being listed during the present year, whereas G, D and H are continuations of 1910 types. Although D is a continuation of the present model D, it has been changed and is a six-cylinder construction—is it a four-cylinder this year—so that for next year there are two four-cylinder models and two six-cylinder types. There has been a general lengthening in the wheelbases of these cars as is shown by the following:

Model	1910	1911
G	91.5	100
D	112	123
H	127	133
M		108

Besides adding to the wheelbases on all of its models the Franklin company has made considerable change in the motor sizes for next year, the tendency being toward the square motor, that is in which the bore is the same as the stroke, there being three of next year's models with this ratio of 1-to-1, as shown by the following tabulation, in which the bore and stroke for each of the models are given.

Model	1910	1911
G	3⅜ by 4	3⅜ by 4
D	4¼ by 4	4 by 4
H	4¼ by 4	4½ by 4½
M		4 by 4

Although not very pronounced, these changes to the square cylinder have all been brought about by reducing the bore to make it equal the stroke, or in the case of the H adding to both. This year two of the three models have the bore in excess of the stroke, but for next year there is not one example of this in the Franklin line.

In addition to longer wheelbases and changed motor sizes, there has been a perceptible increase in tire sizes, which are as follows in the four models:

Model	Front	Rear
G	32 by 3½	32 by 4
M	34 by 4½	34 by 4½
D	36 by 4½	37 by 5
H	37 by 5	38 by 5

These figures show considerable increase in sizes, namely, 1 inch in the model H and 1 inch in the rear wheels of model D. The tendency is shown of using larger than 36-inch sizes for a large car.

In detail analysis of Franklin improvements for next year perhaps the most noteworthy in conjunction with the air-cooled motors employed on all models is that of the company returning to separate intake and exhaust valves for each cylinder. As Fig. 1 shows, the intake valves V, and the exhaust V are located side by side in the combustion chamber, which has a flat instead of hemispherical head as heretofore. This year the intake and exhaust valve in each cylinder are concentric. The company has changed back to the separate valves because a quieter action can be attained. The separate valves are more accessible and they are made specially light for the work. Noise is further reduced by

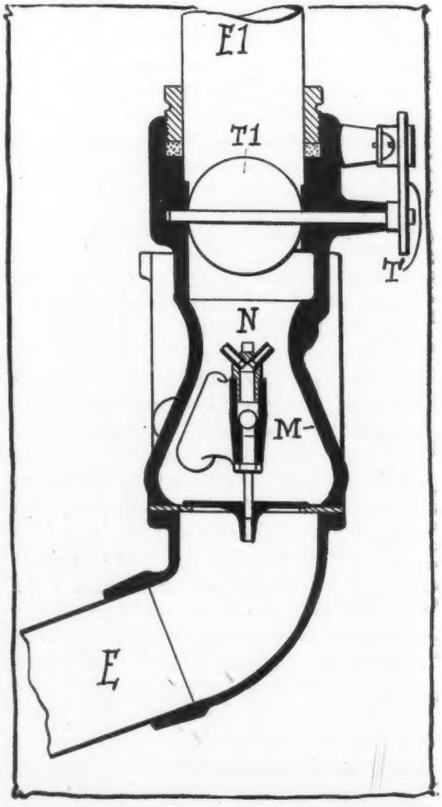


FIG. 2—AIR PASSAGE FRANKLIN CARBURETER

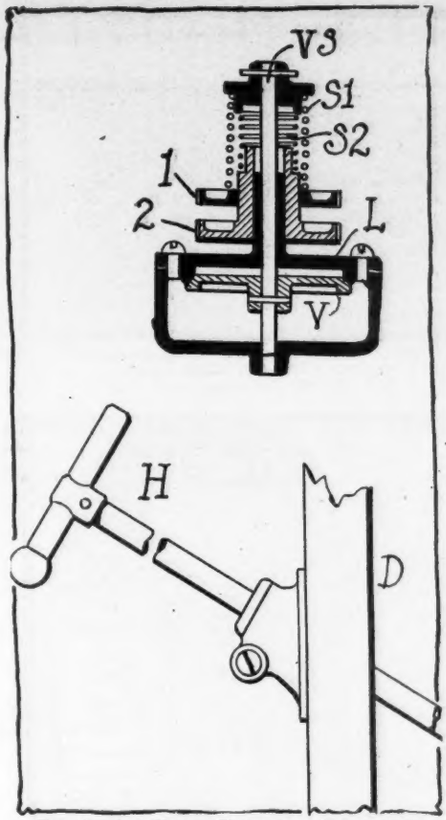


FIG. 3—AIR VALVE FRANKLIN CARBURETER

the use of an auxiliary valve spring at the bottom of the valve lifter rods which are shown in the illustration of the second cylinder. These springs hold the rocker arms R, Fig. 4, over the cylinder heads constantly in contact with the upper ends of the valve stems, eliminating lost motion. In addition to the regular valves in the cylinder heads the Franklin auxiliary exhaust valve EV, located at the base of each cylinder, is used. This valve opens when the piston has reached the bottom of the power stroke in the position shown in Fig. 4, and through it the company claims 70 per cent of the exhaust gases exit, leaving but 30 per cent to travel upward to the top of the cylinder and exit through the exhaust valve V. It is owing to this fact that the hot gases being quickly removed from the cylinder that the Franklin company bases its strong claim on its auxiliary exhaust system. As shown in Fig. 1 there are three valves to each cylinder and one camshaft CS cares for the twelve valves in a four-cylinder, and the eighteen valves in a six-cylinder motor. The three cams for No. 2 cylinder are designated 1, 2, 3.

The company has retained for next year its method of air-cooling in which each cylinder carries vertical fins H which are surrounded throughout two-thirds of their length by metal airjackets AJ, Fig. 1. The circulation of air is created by the flywheel F built as a suction fan, this fan drawing the air in through the grilled opening in the front of the hood and draws it down through the airjackets, the cool air contacting first with the cylinder head, which is the hottest part. This air current is directed into the jacket head by the hood construction. It will be remembered that this year a sheet metal compartment connects with the bottom of the airjackets, this compartment having doors at each side which can be lifted, giving access to the magneto, carbureter and oiler. For next year these doors are done away with, so that when the hood is lifted the motor, as illustrated in Fig. 1, is exposed. The direction of the air into the top of the jackets is, however, accomplished by hood constructions which take the place of the metal compartment used last year, so that with the hood down the air entering the front of the bonnet must of necessity pass downward through the airjackets being drawn thence by the suction of the fan F. The efficiency of the flywheel fan is claimed to be increased by making the fins or vanes V in its periphery of a shorter radial length than at present. An improvement in conjunction with its cooling system is fitting a metal shield over the top of the flywheel so that the hot air, drawn from around the motor, is now directed away from the toeboard of the car, thus keeping the toeboards cool. The shape of this shield is designed to prevent pocketing of hot air beneath the floorboard.

The company has made considerable alteration in its carbureter, illustrated in Figs 2, 3, 5 and 9. As Fig. 5 shows, the float chamber is to the right, the mixing chamber in the center and an auxiliary air valve enclosed in the compartment H. This auxiliary air valve is new and is controlled by two springs, S1 and S2, Fig. 3, and there are two adjusting wheels 1 and 2 for respectively changing the tension of these springs. The auxiliary air valve V is a conventional poppet type with beveled seating, the valve stem VS carrying at its upper end a washer against which both of the springs bear. The housing L is threaded to take the adjusting wheel 2, and the hub of this adjusting wheel is further threaded to take the adjusting wheel 1, thereby furnishing the means of changing the tension of the valve. Fig. 2 shows the general scheme of air passage in the carbureter E marking the entrance, N being the venturi passage in which the nozzle N is located, T1 the butterfly throttle and E1 the exit passage to the cylinders. This carbureter is briefly described as a straight-passage one, there being no turns for the air or mixture in passing through it. It will be remembered that the present Franklin carbureter has a by-pass channel

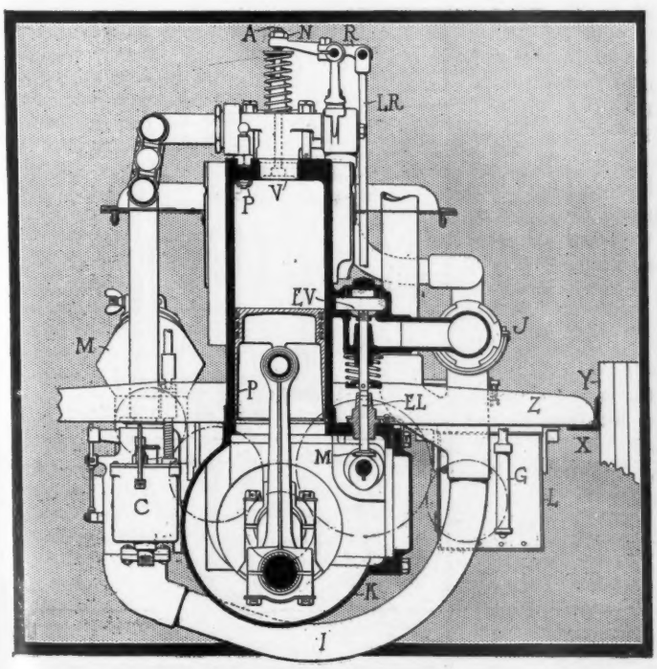


FIG. 4—SHOWING NEW FRANKLIN MAGNETO LOCATION

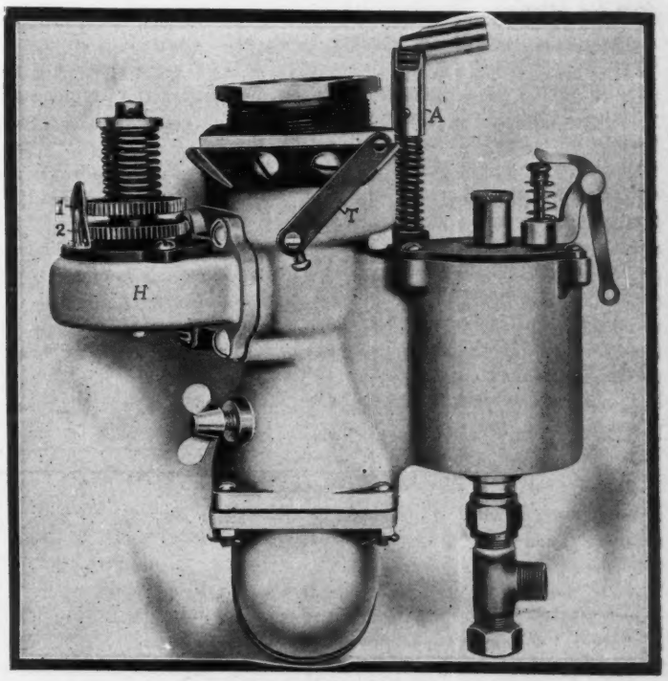


FIG. 5—THE NEW FRANKLIN CARBURETER FOR 1911

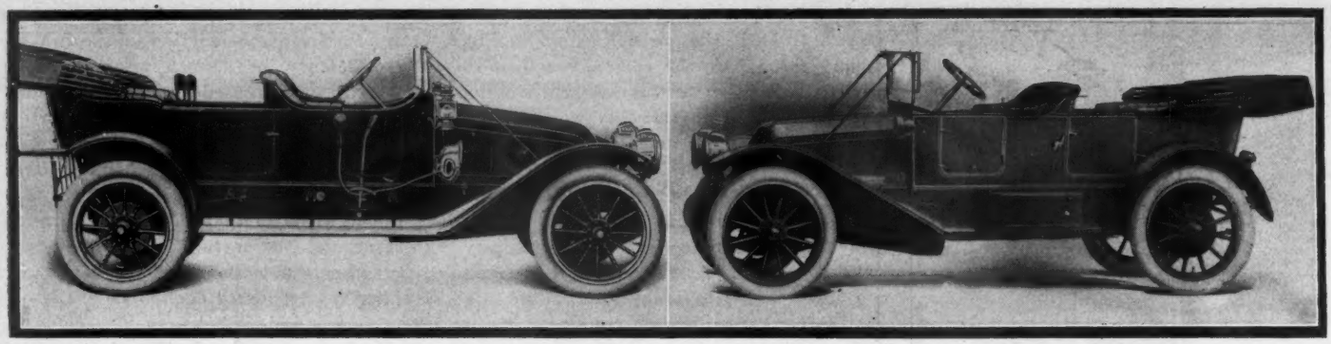


FIG. 6—FRANKLIN MODEL H SIX-CYLINDER CAR

FIG. 7—FRANKLIN MODEL D SIX-CYLINDER CAR

for auxiliary air, which air does not pass the nozzle, and this by-pass is provided with a butterfly throttle interconnected with the regular throttle, so that on opening the throttle the by-pass is brought into use and the creation of too great a vacuum around the nozzle avoided. For next year the maintenance of the desired vacuum around the nozzle is looked after by the auxiliary air valve—the bypass passage is dropped—the company by this change giving preference to the automatic regulation of the nozzle vacuum by the air valve to the mechanical regulation of it by the bypass as used at present. As shown in Fig. 3, in which D designates the dash on the car, there is a manual control H of the needle valve, this handle coupling with the stem A of the valve V, Fig. 9. This control has been used on these cars for many years. In another illustration, Fig. 9, a section through the float chamber is shown, illustrating as it does the metal float operating the controlling valve through a series of levers on which the float rests, only one of these levers appearing, although there are three installed. This illustration shows the connection P, which extends through the radiator and is used for priming.

The carbureter has a mixing valve by which the temperature of the incoming air can be varied to suit conditions. In this valve the controlling spindle when placed vertically turns butterfly valves in the warm and cold-air intake pipes, shutting off one and opening the other. Turning the spindle to the horizontal gives the opposite valve arrangement. Between these extremes any amount of warm or cold air can be taken in. The six-cylinder models are provided with an accelerator pedal. The throttle lever on the steering wheel is also used. This lever operates the accelerator, but the accelerator does not change the position of the lever.

A change in the matter of accessibility in conjunction with the motor is mounting the magneto M, Fig. 4, on the rear cross member Z for supporting the motor. Up to the present the magneto has been located below the level of this cross member and practically in the same horizontal plane as the lubricator L and the carbureter C. The magneto is a high-tension Bosch type and is the only source of current used the coming season marking a continuation of the single ignition system by the Franklin company.

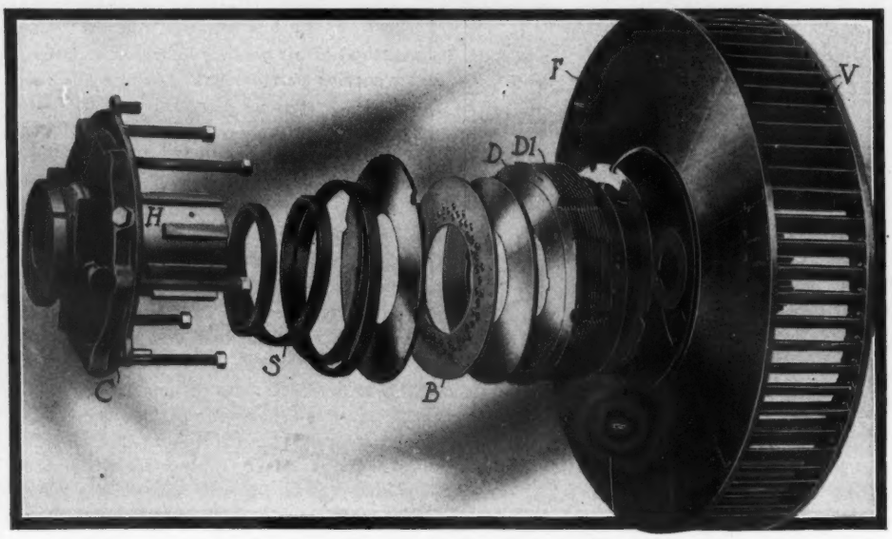


FIG. 8—CLUTCH ASSEMBLY IN ALL FRANKLIN CARS FOR 1911

On all models except model G, which has a fixed spark, the company fits a governor on the magneto. On the sixes an improved double-spring type is used, which is claimed to give a closer approach to the correct spark advance for different speeds than the previous governors have given.

A change has been made in the lubricating of the motor, which change unfortunately does not appear in Fig. 1. Heretofore the Franklin motor has been lubricated exclusively by splash, the oil from the lubricator L, Fig. 4, being delivered to the four hemispherical compartments K in the crankcase. See Fig. 1. For next season the leads from the oiler connect with the main bearings of the crankshaft and the oil after passing through these bearings is led through a hole drilled in the crankshaft to the lower bearings of the connecting rods, and thence to the upper connecting rod bearings, so that there is a positive forced lubrication not only to the crankshaft bearings, but also to the connecting rod bearings. The overflow from this system supplies the splash level in the crankcase compartment K.

Passing from the motor consideration to the transmission piston few changes are noted. Fig. 8 shows the multiple-disk clutch with its two sets of disks D and D1, fifteen of them steel and the alternate set of sixteen

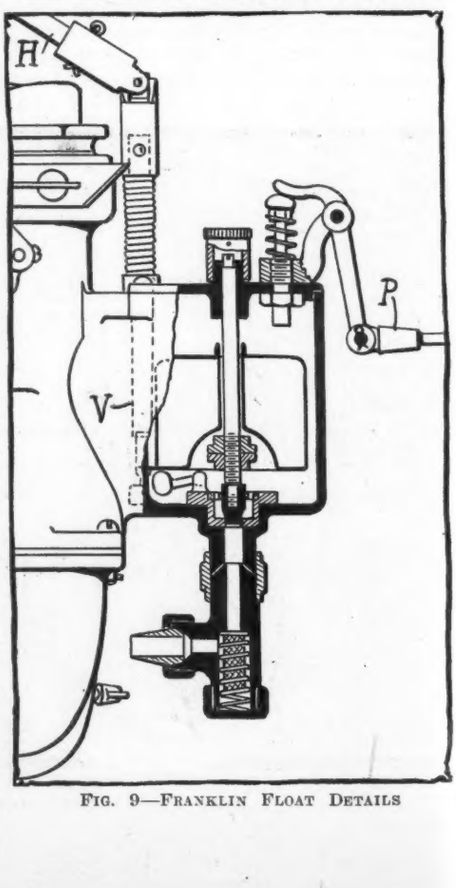


FIG. 9—FRANKLIN FLOAT DETAILS

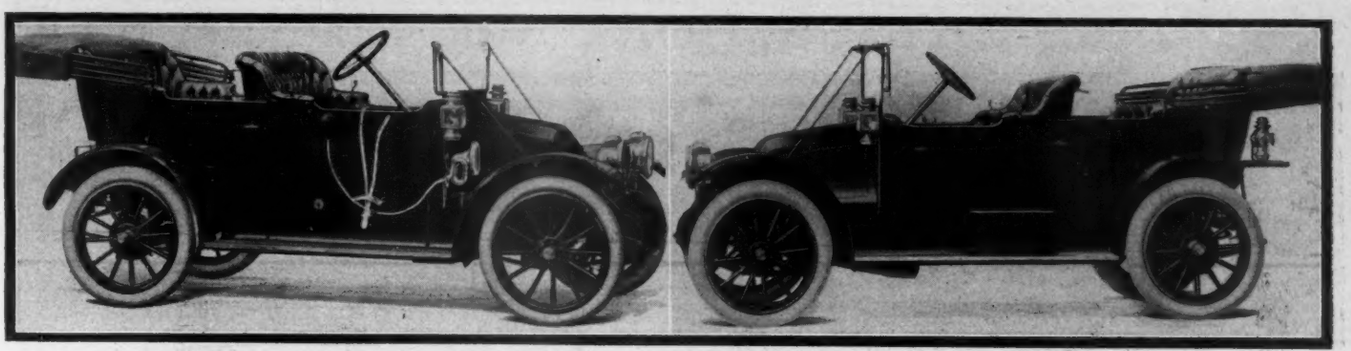


FIG. 10—FRANKLIN MODEL G FOUR-CYLINDER CAR

FIG. 11—FRANKLIN MODEL M, NEW FOUR-CYLINDER CAR

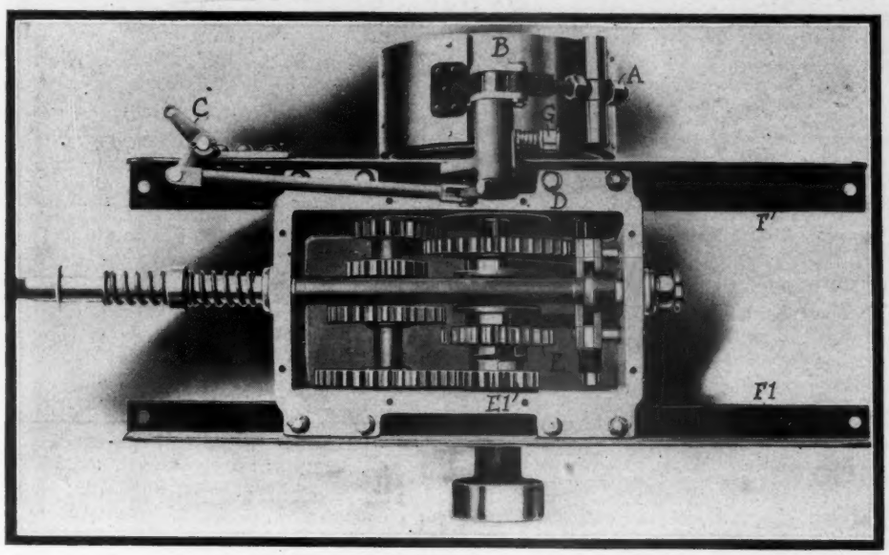


FIG. 12—THE RETAINED SELECTIVE GEARSET ON FRANKLIN CAR:

bronze. The bronze disks attach to the flywheel through the carrier C with its series of long bolts, these bolts entering into notches in the periphery of the disks. The fifteen steel disks are supported on a carrier H which is connected to the gearset, these disks anchoring to the carrier by notches in their hubs. The ball thrust bearing B is furnished and the engaging spring S is of the cone type used for several seasons. The variable diameter of the coils in the spring is intended so that the spring exerts its pressure directly against the face of the disks, thereby avoiding springing or malformation of the disks. The gearset, Fig. 12, is a three-speed selective set with shafts carried on annual ball bearings. The design has not been changed for next season. The illustration shows the method of supporting the aluminum gearbox on two cross members F and F1 of the frame and also shows how on direct drive the clutch teeth on the adjacent faces of pinions E1 and E when brought together give direct drive. D is the other sliding gear. From this gearset power is transmitted through a propellershaft with two universal joints to a semi-floating rear axle. Last year a floating axle construction was used on two models, but that for the coming season, a semi-floating type, is furnished on all four, the change to semi-floating being claimed to give a more rigid axle construction than is possible in floating types. In this axle the sleeves do not extend through the wheel hubs so that the road weight is carried on the two revolving shafts in the axle. A further change in this axle is the use of Timken roller bearings on either side of the differential as well as at the outer ends of the axle sleeves.

The Franklin brake system remains unchanged. All four models are fitted with two sets each. One set is a single-band brake located in rear of the gearbox, Fig. 12. This brake has a broad drum B with adjustment A on the brake band. Its connection is through the bell crank C to the pedal. A grease cup G is fitted on the shaft which contracts the band. The other set of brakes consists of one contracting band on each rear wheel.

In the Franklin running gear characteristics heretofore used are continued, namely, the employment of a laminated wood frame together with elliptic springs in front and rear. The frame side members are each made up of thre laminations of second-growth white ash with protecting strips at the top and bottom.

In the body line an entirely new style of hood is used of Renault design with a grilled opening where the air enters. This hood is quite in contrast with the cylindrical type used until the present on these cars. On both the six-cylinder models the flush-sided type of body is used with doors for the front seats; whereas, on the four-cylinder this season a conventional touring type is used but equipped with front doors. A variety of bodies are furnished as follows: Model G, four-passenger touring, or two-passenger single torpedo-phaeton type; model M, five-passenger touring, or seven-passenger limousine or landaulet; model D, five-passenger touring, or seven-passenger limousine or landaulet, and model H, seven-passenger touring, or four-passenger double torpedo-phaeton. The torpedo-phaeton body is built on lines following the torpedo type, exhibited by the Franklin company last spring at the shows. The body has long sweeping curve. Because of lengthening the wheelbase all Franklin models have more foot room. The runningboards of new design, having ½-inch opening in the middle to allow for expansion This expansion is covered by linoleum and is protected from beneath by a steel plate. All cars excepting the runabout have a new type of runningboard box which contains the Prest-O-Lite tank and the tools.

FOUR FRANKLIN MODELS

MODEL G, FOUR CYLINDERS.	
Horsepower	18
Bore	3⅜ inches
Stroke	4 inches
Wheelbase	100 inches
Front tires	32 by 3.5
Rear Tires	32 by 4
Gasoline capacity	11.75 gallons
MODEL M, FOUR CYLINDERS	
Horsepower	25.6
Bore	4 inches
Stroke	4 inches
Wheelbase	108 inches
Front tires	34 by 4
Rear tires	34 by 4.5
Gasoline capacity	13.75 gallons
MODEL D, SIX CYLINDERS	
Horsepower	38.4
Bore	4 inches
Stroke	4 inches
Wheelbase	123 inches
Front tires	36 by 4.5 inches
Rear tires	37 by 5 inches
Gasoline capacity	17.75 gallons
MODEL H, SIX CYLINDERS	
Horsepower	48
Bore	4.5 inches
Wheelbase	133 inches
Front tires	37 by 5 inches
Rear tires	38 by 5.5 inches
Gasoline capacity	20 gallons

STODDARD-DAYTON, MODELS 40 AND 50, FOR 1911

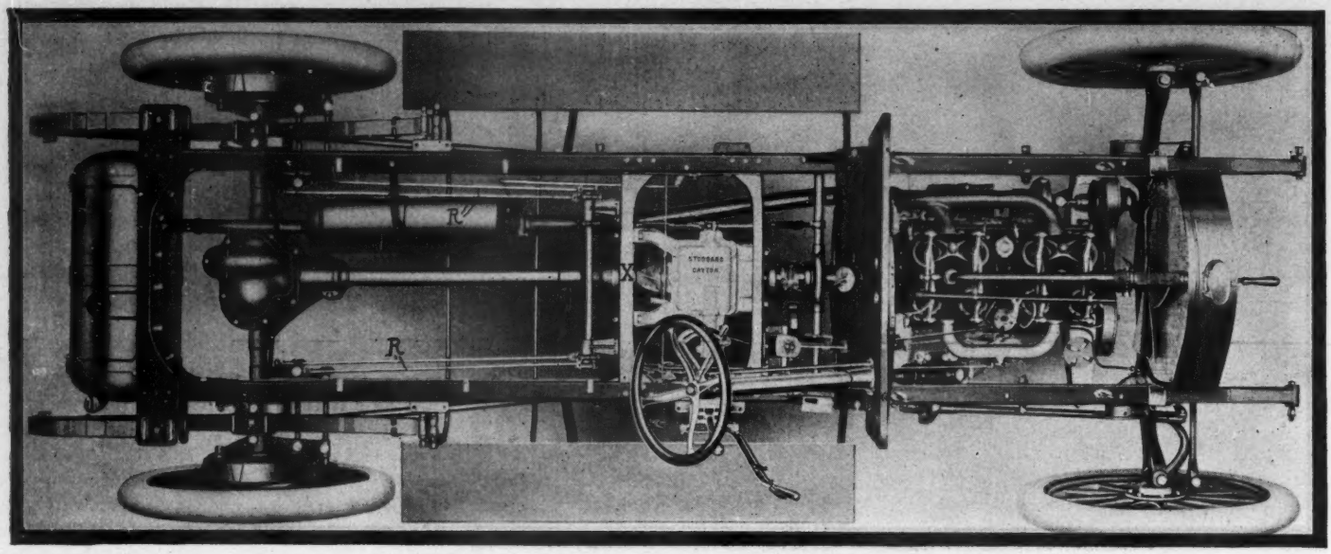


FIG. 1—CHASSIS OF THE 40-HORSEPOWER STODDARD-DAYTON CAR FOR 1911

FOR the coming season the Dayton Motor Car Co. has ready a most comprehensive line of Stoddard-Dayton cars, embracing four chassis sizes, and in all twenty-two different models, not a few of these models consisting of different bodies mounted on the same chassis. In addition to the company giving the buyer the option of four motor sizes, the company givese every variety of body, including seven-passenger touring, five-passenger touring, torpedo types, baby tonneaux, roadsters, limousines, landaulets, and coupes. Speaking generally, the Dayton Motor Car Co. has in its 50 and 40-horsepower types continued its design of the present year, using the valve-in-the-head motor; in the 30-horsepower type, which is an entirely new chassis, an L-type of motor with cylinders cast in pairs is made use of, but the remaining parts of this chassis being similar to that employed in the 40 and 50 sizes; in the 20-horsepower model a third design is used, namely, the employment of a monoblock four-cylinder motor with valves on one side. This 20-horsepower chassis differs from the others in that it uses a selective gearset formed as a unit with the rear axle.

In general there are some characteristic Stoddard-Dayton features found in all four models, namely, the employment of a three-speed selective gearset, double brakes on the rear axle, leather-faced cone clutches, and magneto ignition. There has on the 40 and 50-horsepower models been a general trend of improvement by way of strengthening parts and using longer wheelbases. Sheet aluminum bodies are used on these two models, as compared with wood bodies on the 30 and 20-horsepower chassis sizes.

In order to avoid confusion, the description which follows applies only to the 40 and 50-horsepower sizes; that of the 20 and 30-horsepower types will be reserved for another time. Fig. 1 shows the general layout of the chassis with the gearset located amidship and a torsion tube enclosing the driveshaft so that only one universal joint is necessary, between the gearbox and rear axle, that being at the point X, where the torsion tube is carried on a cross member of the frame. This illustration also shows the location of the brake rods R, which are now mounted entirely inside of the frame side members, where they are protected from dirt and give a cleaner cut appearance to the body. The I-beam front axle of previous years, which is forged in the Stoddard factory, is retained, and the three-quarter elliptic spring suspension has not been altered. In Fig. 2, which is a vertical end section of the motor, the general construction of this appears, showing the intake valve IV mounted angularly on the left and the exhaust valve EV similarly located on the right, these being opened respectively by rocker arms, IR and ER, which are carried on roller bearings in the center and have roller bearings where they attach to the upper ends of the lifter rods LR. It will be noted that grease cups G are fitted at each of these bearing points. An important change in con-

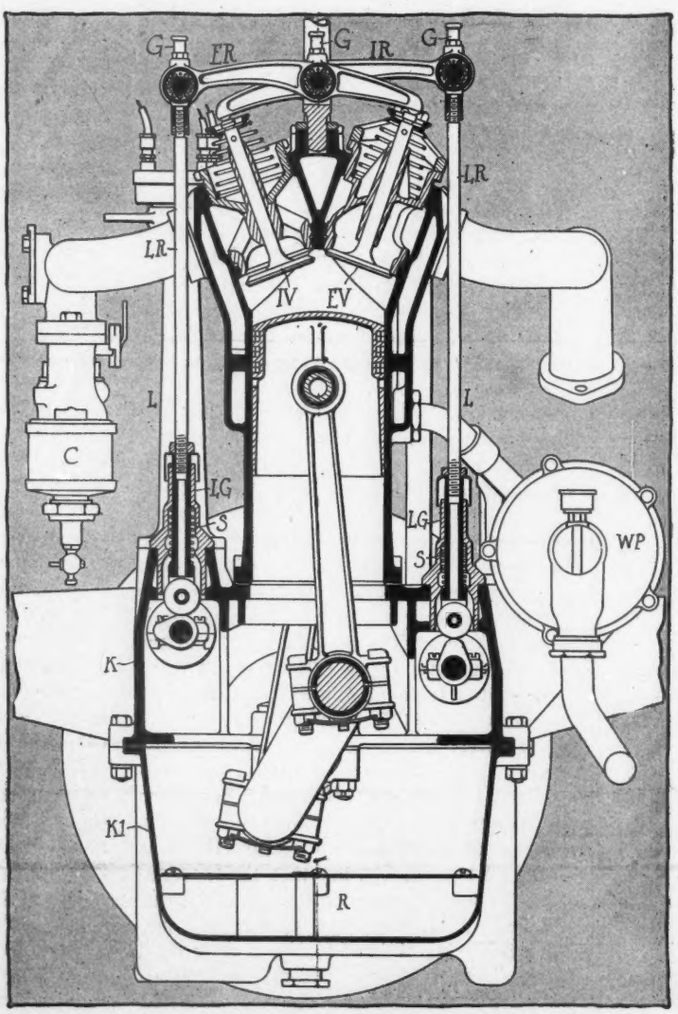


FIG. 2—END SECTION MOTOR OF STODDARD-DAYTON MODELS 40 AND 50

junction with the valve mechanism is that the valve lifter springs S are now enclosed within the guides LG, whereas up to the present they have been located externally and approximately at the point marked L. Enclosing these springs has added materially to the general appearance of the motor. It will be noted as heretofore that in the base of the crankcase is a reservoir R in which the oil is carried, there being a gear pump for circulating oil, attention to which will be drawn later. On the bottom of the valve lifter rods will be noted the rollers which bear directly on the cams. The water pump WP is placed at the right side and the special double-jet carbureter C on the left. The company uses the two-part crankcase, the upper portion K supporting the crankshaft bearings as well as carrying the cylinder castings in the lower portion KI, serving in the capacity of an oil reservoir.

Figs. 4 and 5 show the relative arrangement of the motor for next season, and at once the clean-cut lines of the lifter rods will appear. The magneto is now mounted centrally on the exhaust side. The oil gauge OG, with its float construction and indicator, is an easy guide to the oil level within the crankcase. An important change in Fig. 5 is that the intake water pipes W are now metal, whereas rubber hose is employed this season. In connection with the pump it should be noted that the shaft is practically of double its size in 1910, and the two grease cups G1 and G2 are depended upon for lubrication. A change in conjunction with the fan, illustrated in Fig. 10—on another page—is the use of an eccentric adjustment of the belt, the main support S is split and takes a clamping bolt B. Loosening this clamping bolt permits of turning the eccentric E to any desired point to give the necessary tension on the belt, after which tightening the bolt B maintains the desired tension. The return water pipe W1 is closer to the cylinder head than formerly and the taper T is used to give the necessary capacity between the radiator and the first cylinder casting. A similar taper construction is used in conjunction with the exhaust manifold M, which tapers at T1, where its capacity must serve for the exhaust from four cylinders.

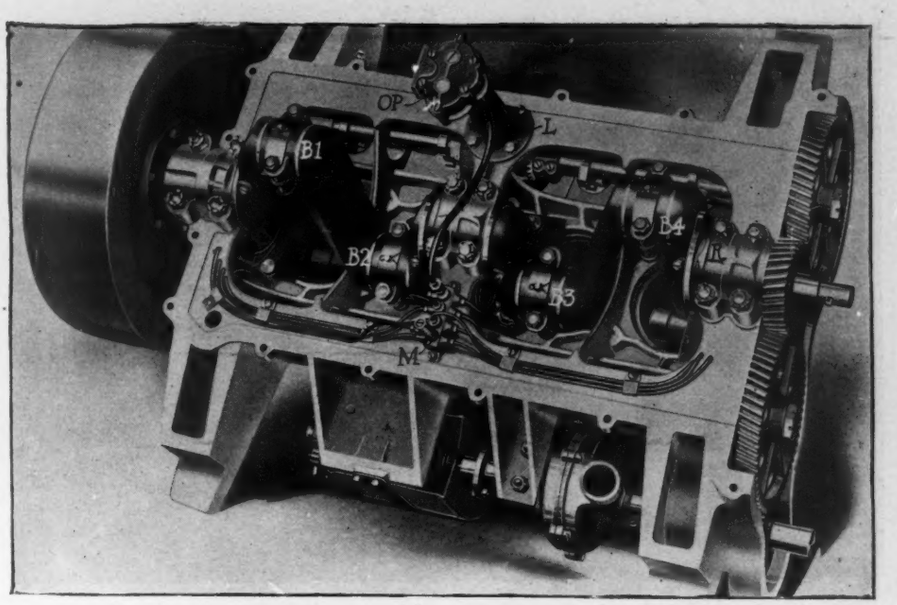


FIG. 3—INTERNAL PIPING IN STODDARD CIRCULATING OILING SYSTEM

In the carbureter department these models are fitted with the double-jet Stoddard carbureter, which is an adaptation of the Stromberg, accomplished by using two nozzles instead of one. The company also continues the auxiliary air opening A Fig. 4 in the manifold. This is regulated from the dash and when open allows outside air to pass directly into the manifold, thereby giving a leaner mixture as desired for high speeds. The gasoline supply is carried in a cylindrical tank in the rear.

Little change has been made in the lubricating system of these cars, particularly in the case of the motor. This system is illustrated in Fig. 3, in which the oil pump OP delivers all the oil used in the motor through the lead L to a manifold M. From this manifold oil is delivered to the three crankshaft bearings, the camshaft bearing, and the timer-distributor. Overflow oil from the main bearings finds its way into the oil rings, which at points R communicate with the connecting rod bearings B1, B2, B3 and B4 through the drilled crankshaft, thus oiling this bearing. But the Stoddard system of forced oiling does not stop here. A copper tube is attached to each connecting rod, the lower

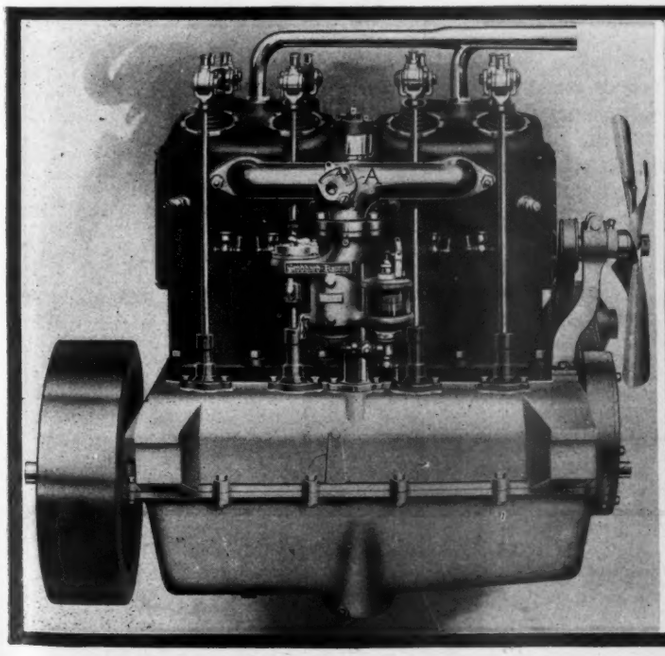


FIG. 4—INTAKE SIDE STODDARD MOTOR

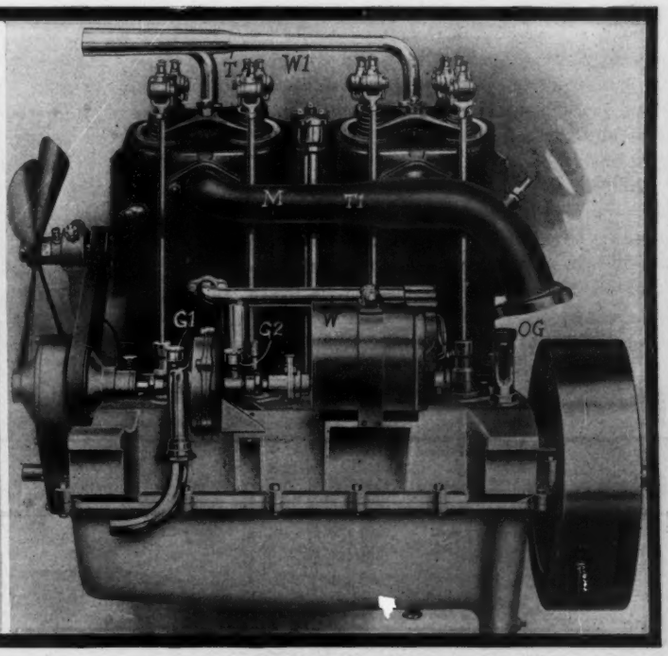


FIG. 5—EXHAUST SIDE OF STODDARD MOTOR

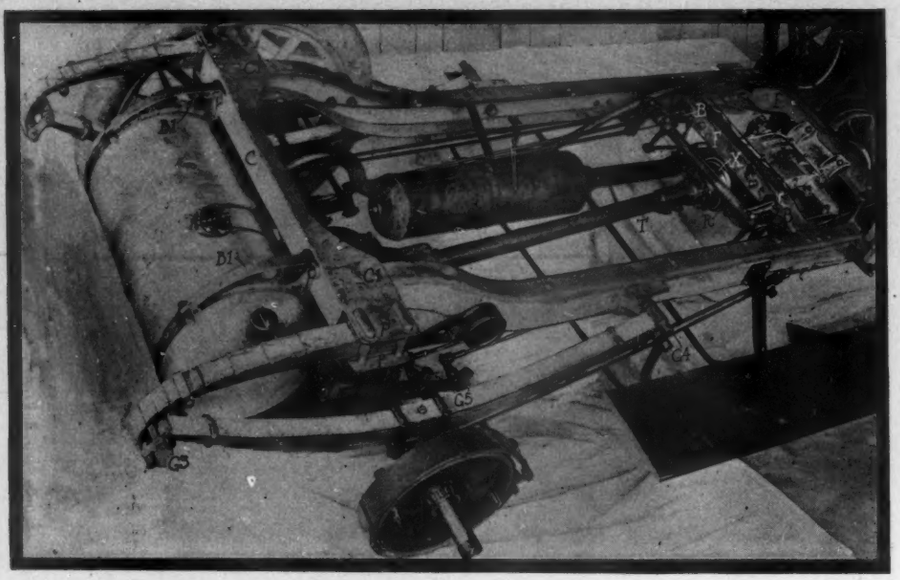


FIG. 6—REAR CONSTRUCTION IN STODDARD 1911 CHASSIS

end of this copper tube entering the lower connecting rod bearing. The oil is forced up this copper tube to the wristpin which it oils, thus completing a positive feed of oil to all crankshaft, camshaft, and connecting rod bearings. As the piston pin is hollow the overflow from it finds its way to the cylinder walls, thereby oiling the piston rings as well. In conjunction with this oiling system is a pressure guage on the dash which keeps the driver informed as to the proper oil pressure.

A new feature in conjunction with these motors is the Bosch double system, which employs two sets of spark plugs, a high-tension Bosch D4 magneto is used as the regular current supply with a battery-set as an auxiliary means. The battery uses a timer-distributor on the motor. In connection with the two systems the novel location of the Bosch coil and switch appears in Fig. 11, only the head of the coil C with a kick switch S being visible. A key K is furnished so that the car may be locked. This illustration shows the two dials D on the dash, one for the oil pressure and the other the air pressure on the gasoline.

In this ignition system the battery current is taken through the primary of a Bosch cylindrical coil, and in series with the make and break in the timer-distributor on the motor, this make and break mechanism being identical with that used in the breaker box of a Bosch magneto. The secondary circuit of the battery system is set up in the secondary winding of the coil, and is led to a separate set of plugs by the distributor incorporated in the same box on the motor as the primary make and break and seen above the intake manifold in Fig. 4. One switch, shown in Fig. 11, controls both systems, this switch having four positions, namely, magneto, battery, battery-magneto and off.

Passing to the transmission system of the car, Fig. 6 shows the general layout, in which the gearbox G, a compact aluminum housing, is carried on the two cross members F of the frame, the nuts anchoring it being cotter pinned and also provided with spring washers. A meritorious feature in this gearset is that there is nothing above it to interfere with its accessibility. The clutch mechanism is ahead of the front crosspiece, and the brake connections are arranged on the crossrod R, which in many cars is placed directly over the gearbox, but in this case is well to the rear, where it is out of the way. It is supported direct on the two brackets B from the frame cross member. Within the torsion tube T is a propellor-shaft, the torsion tube, as already mentioned, being supported in a ball-and socket at X. Within this support is a new type of universal joint, shown in detail in Fig. 12. The novelty in conjunction with it is that the two T pieces or crosses, C and C1, are in the same plane, whereas in ordinary practice it is customary to place the cross part C at right angles to C1. An improved action of the joint is obtained by having them mounted in parallel. Each crosspiece carries blocks B, which work in the slots S of the ring parts of the joint. Grooves in these blocks provide for adequate lubrication of them.

The rear part of the chassis Fig. 6 shows the construction of the crossmember C of the frame, how it embraces at C1 and C the side members and extends still further, forming upper and lower platforms P, between which the upper portion of the three-quarter elliptic spring is clamped, this construction giving a rigid anchorage for the spring, and eliminating the necessity of riveting special brackets to the frame. To this crossmember are also attached the brackets B1, supporting the gasoline tank. Notice is also directed to the general fitting of grease cups G3 and G4 in connection with the springs, as well

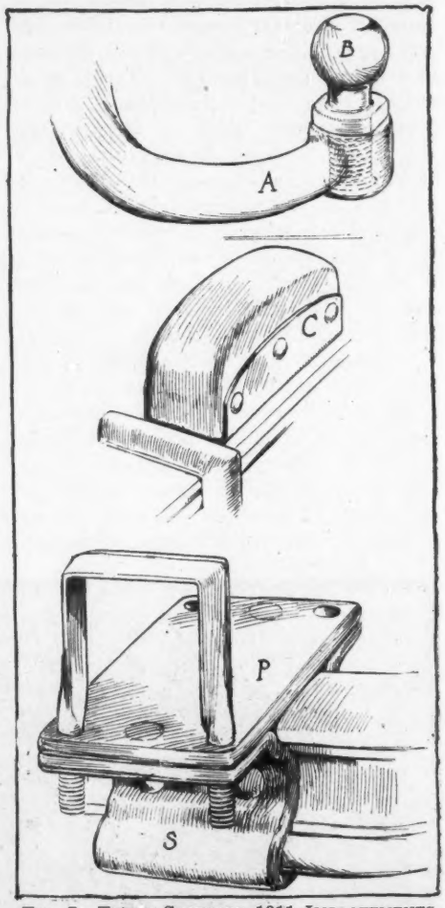


FIG. 7—THREE STODDARD 1911 IMPROVEMENTS

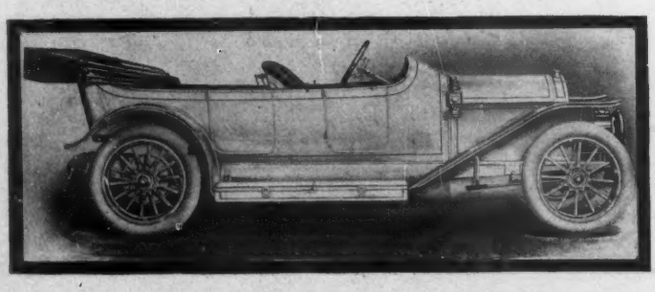


FIG. 8—STODDARD MODEL 50 TORPEDO

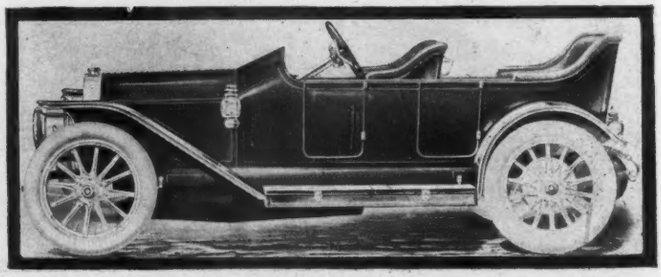


FIG. 9—STODDARD MODEL 40 TORPEDO

as G5 on the brake rods. The exact detail of the spring grease cup is shown to advantage in Fig. 12, in which the bolt is made with a large head H, which is recessed, forming a grease cup, and drilled through its center at D, giving a passage for the grease to the center of the spring eye. The only extra part in this bolt is the head G of the grease cup. This method of grease cup construction is also used in several of the steering parts of this car.

Passing to the running gear, a few important changes are noted. In Fig. 7, of the front axle, the spring seating S is a separate piece which spans the axle and is riveted thereto. An improvement made is adding the plate P, on which the spring rests, this plate preventing any possible spreading of the seating S. The attachment of the spring clip is shown. The front axle contour has been changed so that the carriage of the body is lower, this being brought about by greater drop between the axle end and the spring seating. In conjunction with the front springs a neat rubber bumper attachment is made use of, as illustrated in Fig. 7, in which the rubber is carried in the clamp C, this being a stamping which is anchored in

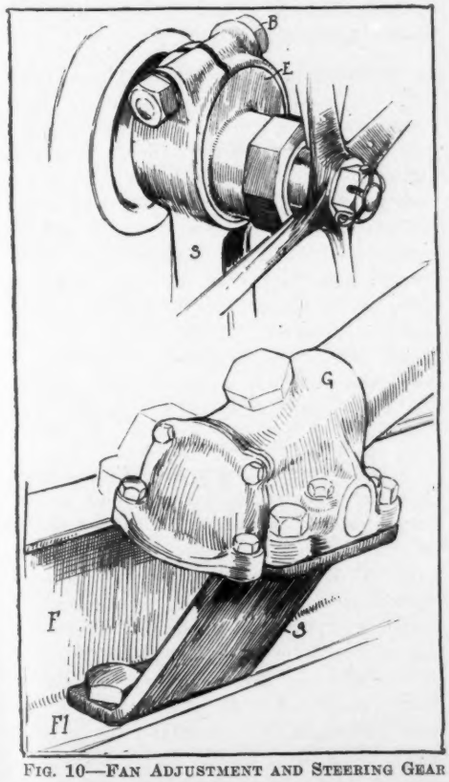


FIG. 10—FAN ADJUSTMENT AND STEERING GEAR

FIG. 11—COIL LOCATION

place under the spring clips at each end. A change has been made in the steering gears by adding ball thrust bearings; and in the steering connections the ball end B, Fig. 7, is now threaded into the end of the arm A and locked therein, instead of being an integral forging, as heretofore. When both were formed as one it was necessary for a strain to be set up in the metal at the bend, which, however, has been avoided in the present construction. Also, in conjunction with the steering gear is a novel brace support S, Fig. 10, on which the inside of the steering gear G is carried. The outer side of the gear rests direct on the frame F, and the interposing of the brace from the lower flange Fl of the frame gives a rigidity which could not otherwise be accomplished.

Brake construction is illustrated in Fig. 6, showing one rear wheel off and disclosing the internal and external bands, both of which are lined with thermoid. The diameter and width of these brake drums have been increased. The French form of rear wheel construction is used, in which brake drums are bolted to alternate spokes of the wheels as felloes. Demountable rims are fitted.

For next season the Stoddard practice of home construction is followed to a somewhat greater extent than during the present season. The company has a complete forge plant, in which front axles, springs, steering gear forgings, and all other forgings entering into the make up of the car are constructed. There is also a frame press in which the frame members are stamped out. During the present season a department has been installed in which the cellular radiators are manufactured. All gears employed in the cars are cut at the factory, all cylinder castings used are cast in the Stoddard foundry; the same applies to bronze and aluminum castings, and to this last might be added other examples of home production in connection with the battery.

Cast aluminum bodies are used on these models, the sheets of aluminum being formed into the necessary curves by pounding with hammers having convex faces; instead of operating these by hand they are worked by power, which increases the speed with which the work can be carried on. There has been a perceptible increase in the wheelbase length, which in the 50 has been increased to 130 inches on the touring car, limousine, landaulet and torpedo type, but limited to 120 inches on the roadster and 106 inches on the special speedster. The 40 chassis is made with but one length of wheelbase, namely, 120 inches, which is the same as at present.

Shock absorbers are regular equipment on these models; the springs have less arch than at present; as the general tendency is towards simplicity in the body styles. The fenders are of an entirely new style, and, as illustrated in Fig. 12, are reinforced headings, which stiffen them materially

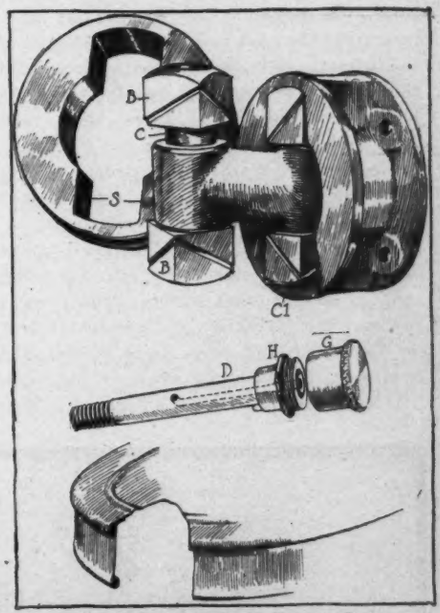


FIG. 12—NEW UNIVERSAL, SPRING BOLT AND FENDER REINFORCEMENT

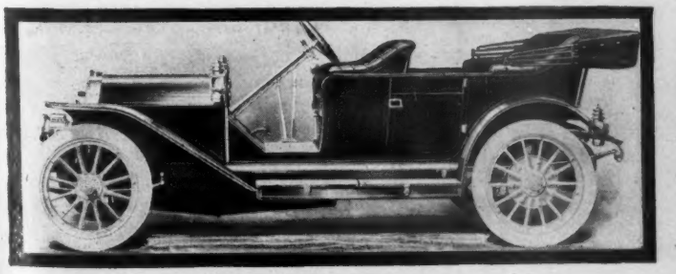


FIG. 13—STODDARD MODEL 40 TOURING CAR

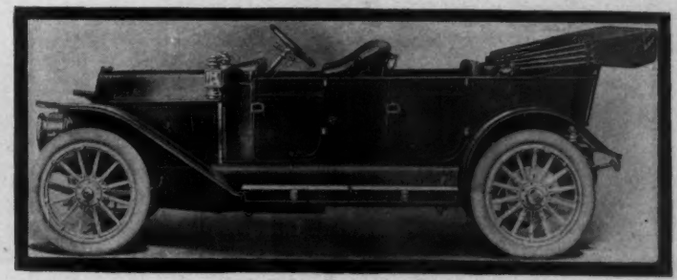


FIG. 14—STODDARD MODEL 50 TOURING CAR

From the Four Winds

LIKE Oil on Roads—Milwaukee, Madison, LaCrosse, Berlin, Oconomowoc and Sheboygan are among the Wisconsin cities that are using or experimenting with oil for dust-laying this summer.

Takes in Thirteen—At a recent meeting this week the Automobile Club of Syracuse elected thirteen more members, making a total of 565 to date. The club, like the H. H. Franklin Mfg. Co., considers the number 13 a luck one, and can point to a number of instances to substantiate the belief.

Tribune Run Plans—The coming Tribune reliability run from Minneapolis to Aberdeen, S. D., will start from Minneapolis either on Friday, September 16, or 2 weeks later, the 30th. It will last 5 days outgoing, 1 day at the Aberdeen control and 2 days returning, reaching Minneapolis on the night of the following Tuesday. Entry No. 1 was recorded by Dr. C. E. Dutton, referee, when the Northland Motor Car Co. placed a 1911 Stoddard-Dayton in the coming contest.

Fighting Dust Evil—The superintendent of streets of Hartford, Conn., Frederick L. Ford, has been trying out various dust-layers for the past few days and several of the streets heavily traveled, throughout the town, have been selected for the tests. Several different dust-layers have been tried and good reports have come of each. A section of Washington street, one of the main thoroughfares, is being treated with dustoline, Asylum avenue with asphaltic oil and gluterine, Woodland street with tarvia, this same treatment also being used on several other streets. The present contract for sprinkling with water expires in November and it is quite likely that next year, at least, the roads of the town will be oiled instead of sprinkled. This has given rise to a question as to whether the owners of abutting property could be taxed for the oiling treatments and the corporation counsel is of the opinion that the city must stand the cost.

Ohio's Report—The report of Ohio State Registrar of Motor Cars Fred H. Caley for the month of July shows that owners to the number of 1,875 registered motor cars and manufacturers and dealers to the number of twenty-five were licensed. In all 350 chauffeurs were licensed. The total revenue of the department was $10,442.50.

Seeks Racing Talent—Assistant Secretary J. M. Nye, of the Atlanta Automobile Association, has gone to New York. While there he will attempt to secure a match race between Barney Oldfield in his Benz and Ralph de Palma in the big Fiat for a September date in Atlanta. He also will talk over the program for his fall meet, November 3, 4 and 5 on the speedway, with the manufacturers and team managers. The Atlanta association directors have voted $25,000 as a starter to make the fall meet a success and are going after cars strong.

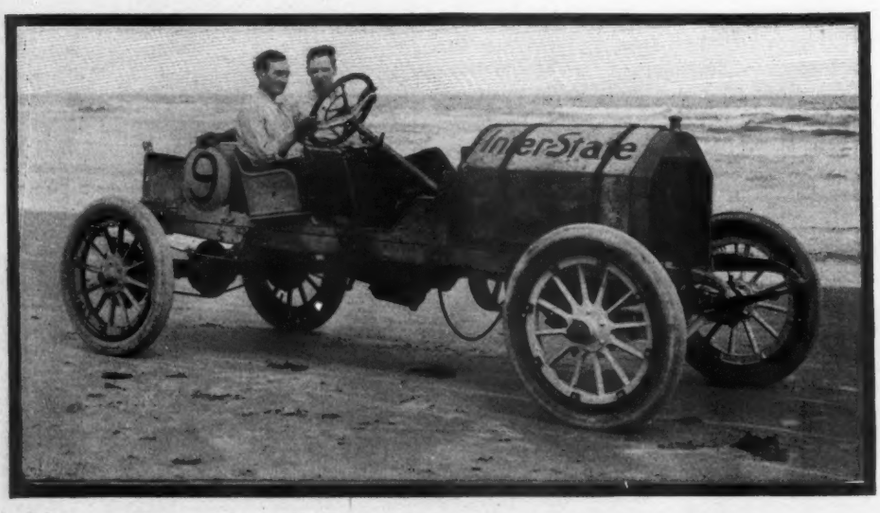
Michigan Signboarding—Last Friday work was begun on a task which Michigan motorists will declare the best move ever made by Michigan State Automobile Association. This is the signboarding of various routes through the state. The work of putting up these signs was begun at Grand Rapids, under the supervision of Dr. F. C. Warnshuis, secretary of the state association. The routes which will be signboarded are: Grand Rapids to Detroit; Grand Rapids to Holland; Grand Rapids to Kalamazoo; Detroit to Saginaw via Flint and Pontiac; Detroit to South Bend, Indiana, via Kalamazoo. It is estimated that the work will call for an expenditure of $2,800. It was provided for at the last annual meeting of the directors held in Detroit. The signs that are being placed are of wood, treated with a special preparation to withstand the elements. They will be placed on 10-foot angle iron posts set in 3 feet of concrete. In all 834 signs will be placed.

Club at Berwick—At Berwick, Pa., the Berwick Motor Club has been organized, one of the main objects of which will be to further the good roads movement. The officers of the club are: President, W. J. Mansfield; vice-president, S. C. Fenstermacher; secretary, V. Crisman, and treasurer, W. F. McMichael.

Milwaukee Oils Roads—The first consignment of the 500,000 gallons of asphaltum oil purchased by the city of Milwaukee, Wis., is now being applied to the parkways and boulevards. Because of financial stringency, the city was unable to start the work sooner, and even now is able to do only a part of what was originally intended.

Watching the Supervisors—The Automobile Association of Indiana county, Pa., is inaugurating a system of inspecting the roads that is very satisfactory. It aims to prosecute all road supervisors who do not comply with the laws now in existence for the betterment of country roads and its committee is making weekly trips in different directions over the five inspection districts to gather data to forward to the road supervisors. If at the time of the third tour of inspection the highways are not improved returns will be made promptly to the court through the district constables.

Carries Cow in Tonneau—When Arthur Wheeler recently purchased a cow in Syracuse, he employed a Franklin as a means of transporting it to his farm at Cleveland, N. Y., 34 miles away. The tonneau was removed from the motor car and in its place was built a small stall. With the aid of two other men they placed the cow in the car and fastened it in so that no harm would come on the journey. The trip was made in an hour and a half over roads deep with sand, which surmounts Oneida lake. In places the tracks in the sand are fully 6 inches deep, and there are hills up which it is a steady pull through the sand. The car was a 1906 Franklin of 20 horsepower, which has been run almost 100,000 miles since it left the Franklin factory. Wheeler arrived at his farm an hour and a half after he left the city of Syracuse. The next day Mr. Wheeler bought two calves and decided to take them home in the same way. As the rack which he had used for carrying the cow had been removed from the car he



HAROLD BRINKER, WHO DROVE INTER-STATE IN GALVESTON BEACH RACES

loaded the calves in the front seat, held their heads with one hand and steered with the other, while another man beside him kept the animals from falling out. A few days later Mr. Wheeler went to the city and took home with him in the car a bed which he had purchased.

Interest Awakened—Steps are being taken by prominent owners at Sheboygan, Wis., in the direction of forming a motor club. Several years ago the Sheboygan County Automobile Club was organized, but interest died out. The recent organization of a county association in Manitowoc, and adjoining county, has revived interest. More than 200 cars are owned in Sheboygan.

Iowa Insurance Ruling—Iowa owners who have liability insurance on their cars which are used for other than strictly commercial purposes, cannot have those policies renewed when they expire. The attorney general of the state has held that such policies were issued in violation of the law, and the state insurance department will not tolerate the renewal of policies which were illegal at the time they were issued. This situation results from the ruling of Attorney General Byers that commercial motor cars may be insured under the liability insurance clause of the state insurance laws, but that cars run by the owner for pleasure cannot have that insurance.

Club at Twin Falls—The Automobile Club of Twin Falls County is the name of the organization of owners of Twin Falls, Idaho, and vicinity, which has just been formed to promote the cause of good roads. There are nearly 100 motorists who have signified their intention of joining with this club. A state association is also under way, comprising the clubs at Twin Falls, Gooding, Boise and Idaho Falls. These will affiliate with the American Automobile Association. The officers of the Twin Falls club are: President, George S. Aldrich; vice-president, J. Benjamin Hall; secretary, Arthur J. Peavey; treasurer, W. W. Mickelwait; directors, P. H. Crow, F. C. Spencer, Carl E. Lind.

Tryout for Cadillac—Without so much as touching a wrench to any part of the car R. D. Humphrey, sales manager for the Northwestern Cadillac Co.; G. A. Ringlund, superintendent of the mechanical department; G. R. Walding, manager of the St. Paul branch, and a Tribune representative, reached Minneapolis last Thursday night in a new 1911 Cadillac touring car driven from Detroit. It was the end of a tour which started Monday from Detroit at 4 o'clock. A 125-mile run was made Monday in the actual running time of 5 hours 45 minutes. At the close of the second day's march the speedometer showed that 203 miles had been covered in 7 hours 15 minutes' actual running time. It required nearly 2 hours to leave Chicago en route to Clinton, Ia., the third day out of Detroit, owing to traffic and speed regulations. The party reached Cedar Rapids soon after 8 o'clock that night, after having covered 236.9 miles on fine roads. Leaving Cedar Rapids at 8 o'clock Thursday morning, they sped through the state of Iowa at an average of 23 miles per hour and reaching St. Paul at 10:50.

ARTHUR WHEELER CARRIES LIVE STOCK IN FRANKLIN

Supervisors Will Do It—For a long time many road intersections in New Castle county, Delaware, have been unmarked. This difficulty is to be overcome at once, County Engineer James Wilson having supplied all of the road supervisors with sign-boards, which are to be posted at the places where there are no signs, giving the names of the roads and the distances to important towns and points.

Milwaukee's Plans—A resolution is before the Milwaukee, Wis., county board of supervisors providing for the purchase of a motor ambulance for the county hospital. The county has already equipped the sheriff's office with a seven-passenger touring car for use of the deputies, and the saving in this respect makes it highly probable that the ambulance measure will be passed. The city of Milwaukee is also working out a plan for a motor ambulance for the city and emergency hospitals. The municipality already owns eleven cars and is well pleased with them.

Club With Worthy Objects—Good roads is the first question that has been taken up by the newly-organized Nashville Automobile Club, of Nashville, Tenn., and in this connection the preparation of a road map of Tennessee is to begin at once. Secretary C. C. Gilbert says that he also is endeavoring to get the New York-Atlanta tour to pass through Nashville. There are many good roads in Tennessee, but there are too many places where stretches of only a mile or so, or in other instances a few miles, condemn a route that would otherwise be in splendid shape. From Nashville to Chattanooga is a good example. The distance is 151 miles, of which 143 miles is excellent road, but just one stretch of 8 miles of mountain road that has not been worked in 41 years makes it almost impossible for a motor car to make the trip. Attention has already been turned to this and it is probable this will be one of the first results of the organization of the club.

Milwaukee Track Meet—The Milwaukee Automobile Club is arranging for a race meet to be held at state fair park, near Milwaukee, immediately after the annual state exposition, beginning September 12. It is planned to bring to Milwaukee a number of crack professional drivers, instead of opening the field to amateurs, the object being to avoid accidents liable to occur under such conditions on a mile dirt track, with unbanked turns.

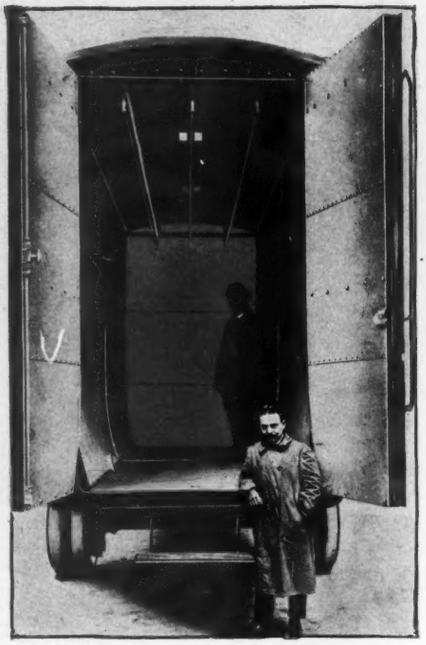
Wants More Technical Run—It was stated this week by Secretary Forman Wilkinson, of the Automobile Club of Syracuse, that the contest for the Watson cup next year likely would be more technical in its nature than it was this season. He said the officers had suggested that for the next run it would be well to have checking stations established. The feeling, however, is not in favor of a severe test, and sociability will be the watchword, as this year.

Not Doing it Right—D. M. Power, of the Maxwell-Briscoe Syracuse Co., calls the attention of the state engineering department to a matter of novel interest in the present laying out of state roads. He says of late years the geographical surveys made provide only for the obviation of engineering difficulties, the maintaining of a regular grade, etc., to the exclusion of the convenience of communities. Many such state roads are being built to skip cities of considerable size by as much as 3 miles. State roads built to really serve the communities, says Mr. Power, would benefit equally trades people and tourists. He advocates due agitation among county supervisors to correct this situation, and this will be undertaken at once, it is stated by Syracuse motorists who are interested in the proposition.

The Realm of the Commercial Car

REFRIGERATING MOTOR TRUCK

WHEREAS most European countries do not raise sufficient cattle to provide for their increasing wants, South America and Australia are puzzled by the abundance of their flocks, of which only a small portion can be used by their scarce population. The manufacture of meat extract has offered a means of dealing with part of the surplus cattle, but the export of frozen meat to Europe has first established an equilibrium between meat-producing and meat-consuming countries. As the meat, to be perfectly fresh, should be protected against the influence of heat, even on the relatively short way from the slaughter-house to the refrigerating plant on board ship, the Argentine company, La Negra, recently entrusted M. de Dion-Bouton with the construction of special refrigerating cars. In order to keep out any obnoxious influence of the outside air these cars have been designed as real refrigerating plants, their double walls being lined with substantial sheets of compressed cork so any meat kept inside may arrive on board ship in a condition of absolute freshness. The use of the car for this special purpose will doubtless give a new impetus to the import of frozen meat.



De Dion Refrigerating Truck

SWEEPING AND SPRINKLING CAR

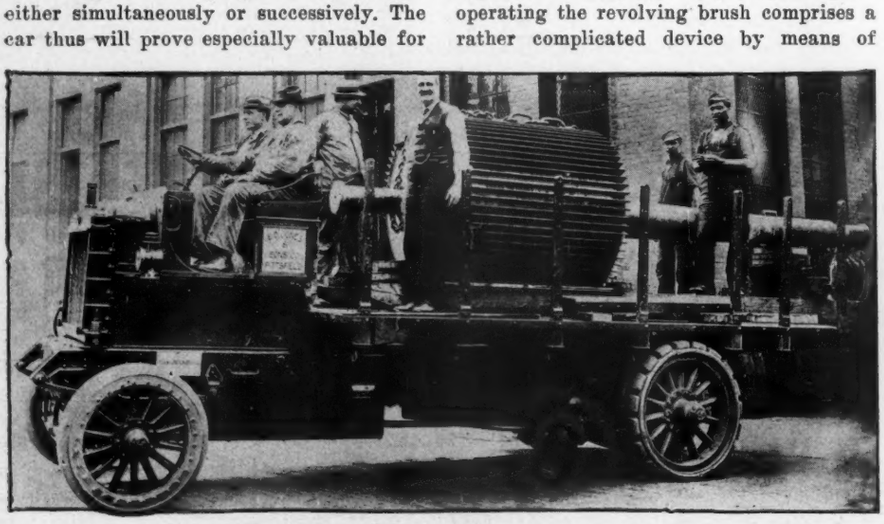
The sweeping and sprinkling motor truck recently constructed by de Dion-Bouton deserves general interest because of its ingenious and convenient design, allowing the two street-cleaning operations, namely, sprinkling and sweeping, to be performed either simultaneously or successively. The car thus will prove especially valuable for smaller townships as a single vehicle operated by one man will enable the cleaning proper of all the streets to be carried out in the morning, and the sprinkling in the afternoon, whereas in the case of especially frequented thoroughfares in large cities, the possibility of simultaneous sprinkling and sweeping will be appreciated.

The car comprises a 25-horsepower four-cylinder chassis. On the longitudinal shaft is mounted, the gear, serving to operate the revolving brush or broom, and also the centrifugal pump for spraying. As regards the sweeping outfit, the gearing for operating the revolving brush comprises a rather complicated device by means of which the speed of rotation can be at first reduced so that the pinion actuating the brush may be set rotating at a convenient speed. It further contains a switch for actuating or stopping at will the brush, and another switch for actuating the centrifugal pump for spraying. The equilibrium of the brush is ensured by a sliding counter-weight, thus allowing the variable conditions of the road—dust, mud, declivities, etc.—to be accounted for by varying the thrust of the roll.

The slanting revolving brush, 2.10 metres in length, allows an area about 1.80 metres to be cleaned at a time which may be said to comply with all reasonable requirements. The driver can raise or lower the brush at will by actuating a lever which automatically operates the switching device, above mentioned, so that the brush will be stopped as the car is stopped and started of its own accord on touching the ground. A sprinkling outfit prevents any raising of dust.

The sprinkling device proper is fed from a tank about 2,000 litres capacity, mounted on the chassis and which is provided in front, close to the driver's seat, with a water gauge. In its upper part this tank is fitted with a cap and manhole, and with a tube for replenishing. Below the tank is located the centrifugal pump which acts on the distributing box connected in its turn with the sprinkling boxes arranged in the rear part of the car.

The driver can start and stop the pump by means of a lever located to his left. He also can actuate the steering wheel of the distributing box, thus working either with the right of left hand box alone or with both sprinkling boxes as well as stopping both instantaneously, so that sprinkling may be adapted to any variable requirements of the traffic. The sprinkling boxes can likewise be regulated, supplying a range of 3 to 12 metres.



Sampson Truck Delivering 3½-Ton Steel Roll and Shaft

GASOLINE AMBULANCE WANTED

The city board of health of Indianapolis, Dr. C. S. Woods, secretary, is now in the market for a gasoline ambulance for the city hospital and has asked the city council for an appropriation of $3,600 to purchase one. The board has received two bids, one for $3,475 from the Buick Motor Co. for an Oldsmobile, the other one of $4,000 for a Premier from the Gibson Automobile Co. The board has not decided whether it will accept either of the bids now before it.

COLUMBUS TRIES MOTORS

The Columbus, O., postoffice department July 25 placed in service four motor mail collection wagons, which are the first of their kind in the state of Ohio. The wagons have a specially built body, similar to the horse-drawn mail collection wagons, which have been in use in various cities. Each of the wagons is provided with a chauffeur and a mail collector, the latter

in uniform. The wagons are painted a cream color with the letters "United States Mail" on either side The postoffice has made a contract with a garage to care for the wagons and furnish the chauffeurs. Three wagons are used daily with one in reserve for emergencies. It is believed that the three wagons will do the work of nine horse-drawn wagons as were used previously to the adoption of the motor wagons.

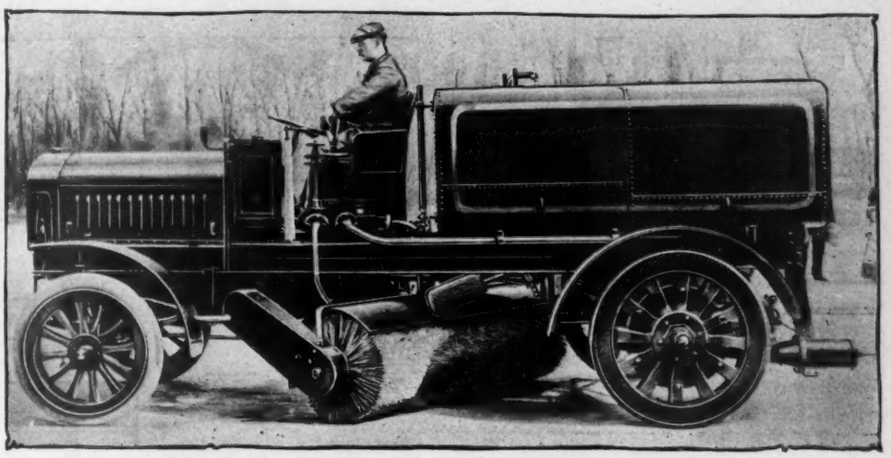
NEW FUNERAL CAR

Wilmington, Del., is to have an innovation in the handling of funerals in the future, the Lawncroft Cemetery Co., which has a large cemetery on the boundary line between Delaware and Pennsylvania, having purchased, under special order, a funeral car. The purpose of this car is to carry small funeral parties to and from Wilmington and Chester, Pa., and the cemetery. It is capable of carrying a body and thirty persons. It is said to be the first car of its type ever built. It will make the run between either city and the cemetery in an hour, the distance being about 7 miles in each case. Heretofore it has been necessary to make a slow trip in coaches or by trolley. The new arrangement, the cemetery company believes, will be beneficial from a business standpoint and will be appreciated by lot holders at the cemetery.

NO BIDS RECEIVED

No bids were received by the postoffice authorities at Indianapolis on August 3, the date set to receive bids for furnishing motor cars for mail collecting for the 9 months beginning October 1. The present contract is held by the Overland Automobile Co., which declined to bid because the proposed contract was too short and because the government would not lease enough cars to permit the work being done on schedule time without violating the speed laws. Several companies asked for specifications, but did not bid. It is possible the mail-collecting service will be discontinued when the contract expires.

A model car has been on the road for some time, and under the hardest kind of service has shown up wonderfully well. It is not expected that the commercial vehicles will be ready for the market much before the middle of October, possible before that time. The Pope company 2 or 3 years ago brought out a gasoline commercial car, but this model never was marketed as the company had all it could do to keep in line with the demand for its pleasure cars. The factory facilities have increased now to such an extent that it is possible to resume operations in this field. In the matter of cars for municipal service the company has done a brisk business for the past 2 years. Several cars are almost ready for shipment, including a police patrol and combination ambulance for the city of Hartford. A gasoline chemical fire engine was delivered recently to the same city. The police patrol is a Pope vehicle, ordinarily a patrol, which can be converted into an ambulance without trouble. Ten or a dozen people can ride inside.



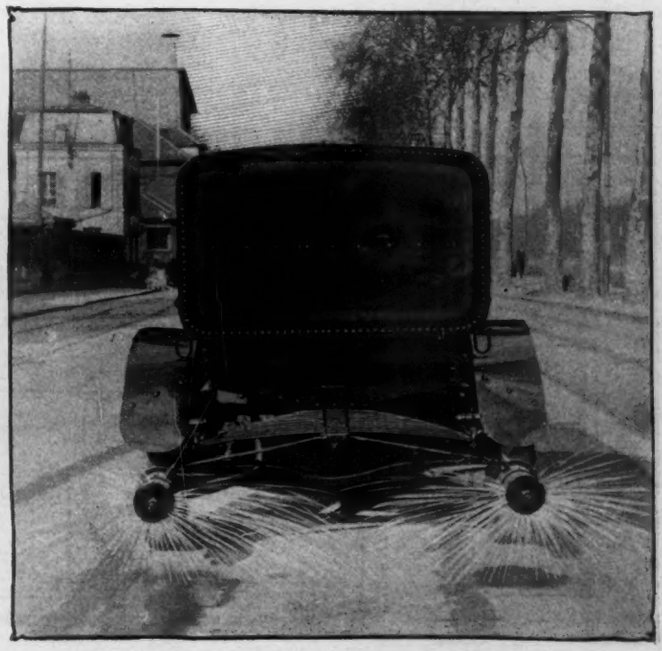
MOTOR STREET SWEEPER USED ON STREETS IN BERLIN

The city of Milwaukee has adopted the court and Central police station building, to be erected at Broadway and Oneida streets at a cost of $250,000. The plans competitive plans of Albert Randolph Ross, of New York, for the new criminal provide for a large municipal garage, wherein the fourteen cars used by the various municipal departments and owned by the city will be housed. The garage division is situated on the first floor and provides room for chauffeurs. At this time the cars are garaged in public places, which is causing some inconvenience.

POPE'S GASOLINE LINE

The Pope Mfg. Co. will add a line of gasoline commercial vehicles to the 1911 production according to information coming from an officer of the Pope company.

EXTERIOR OF GERMAN REFRIGERATING TRUCK



SPRINKLING MOTOR CAR IN USE IN GERMANY

Current Motor Car Patents

Valve-in-the-Head Motor—No. 959,019, dated May 24; to W. M. Leedom, Colton, Cal.—The motor covered by this patent is unique in that the head of the cylinder is spherical and contains large inlet and exhaust ports which are synchronously uncovered by a spherical-segment valve. An idea of the construction may be obtained from Fig. 1, which is a rough sketch not necessarily mechanically correct. In operation the spherical-segment valve V, which is keyed to the shaft S, is designed to oscillate thereon so as to alternately uncover the inlet and exhaust ports P, which extend almost half way around the cylinder. The shaft S extends across the cylinder head and has a bearing in the cylinder wall at both ends, one end passing through the cylinder walls for the attachment of the operating mechanism. Regular piston rings R adapted to fit the spherical surface of the walls are provided. Some of the advantages claimed for this construction are: Large ports, no pockets to hold burnt gases, fewer parts, practically noiseless operation, economical manufacture, and no valve-grinding.

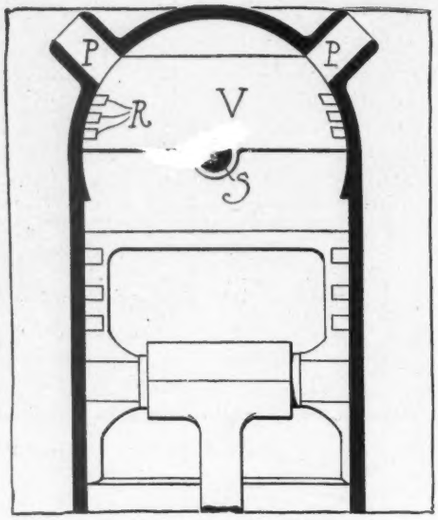


FIG. 1—LEEDOM'S MOTOR DESIGN

Improved Lifting Jack—No. 964,394, dated July 12, to Erastus L. Coddington, Van Buren, Ind.—The advantages of the jack to which this patent relates are: That it is adjustable to a greater height than the ordinary jack, it has no detachable handle which may be lost or misplaced, ball bearings are employed in it to facilitate its operation, and it is no larger, and perhaps smaller than many jacks now in use. As shown in Fig. 2, a standard S having two vertical slots with recesses R formed in the opposite walls of the slots, contains a sleeve E slidably mounted therein which has lugs L adapted to rest in a pair of recesses R, one in each slot, for supporting the sleeve E at different elevations. A ball-bearing ratchet wheel W is mounted on the upper end of the sleeve E, and is threaded internally to receive the threaded post P. To operate this jack, one has but to rotate the sleeve slightly until the lugs L clear the recesses R, raise the sleeve until the jaw J is as close as possible under the part to be raised, turn the ratchet wheel a few turns to make the jaw take hold, then raise the handle H, which is pivoted at the point O, and work it back and forth in a horizontal direction until the part is raised to the required height.

Floatless Carbureter—No. 963,804, dated July 12, to John Peterson, Chicago, Ill.—This patent relates to a simple, small and compact type of floatless carbureter designed as illustrated in section in Fig. 4. When in operation, gasoline is admitted at G to a chamber A, forming a water and dirt trap; it then flows through the channel C and into the mixing-chamber M, where it is mixed with air admitted through the holes H. The mixture thus formed passes through the automatically-controlled valve V into the chamber B and then out to the motor through the inlet pipe, which is attached at I. The flow of gasoline is doubly controlled, first by means of the adjustable needle-valve N, and secondly by the valve NI, which is under control of the driver through suitable means attached to the lever L. The valve NI also controls the admission of air to the mixing-chamber, it having lateral arms A extending horizontally outwards through slots in the carbureter casing and then vertically upward to form adjustable supports for a band which moves up and down to cover or uncover the holes H. The valve V is slidably mounted on the stem of the valve NI, and is controlled by the spring S. The tension of this spring is adjustable by means of the wings at the bottom of the threaded sleeve E. The proportion of air in the mixture may be regulated by changing the adjustment of the band covering the holes H; this may be done by means of the nuts on the vertical sections of the arms A.

Safety Attachment—No. 964,427, dated July 12; to Thomas B. Jeffery, Kenosha, Wis.—This patent covers a very simple device adapted to render the starting crank of a motor car inoperative while the clutch is engaged, and thus prevent the operator from starting and being run down by the vehicle. The simplicity and arrangement of the device is illustrated in Fig. 3; it is comprised of two transverse levers L and LI attached to the side-members of the car frame, and a shaft S pivoted to these two levers. Lever L, at its inner end, is suitably secured to the jaw-portion of the starting crank, and lever LI at its inner portion is yoked to receive a flange F on the clutch. When the clutch is in, as shown in the illustration, the starting crank cannot be connected up to the jaws on the end of the crankshaft of the motor.

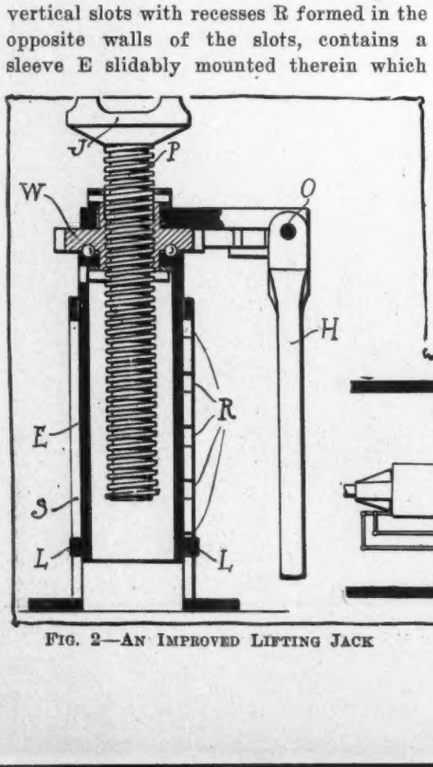


FIG. 2—AN IMPROVED LIFTING JACK

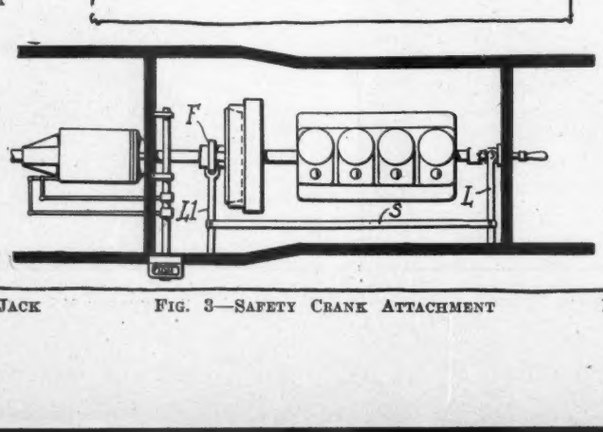


FIG. 3—SAFETY CRANK ATTACHMENT

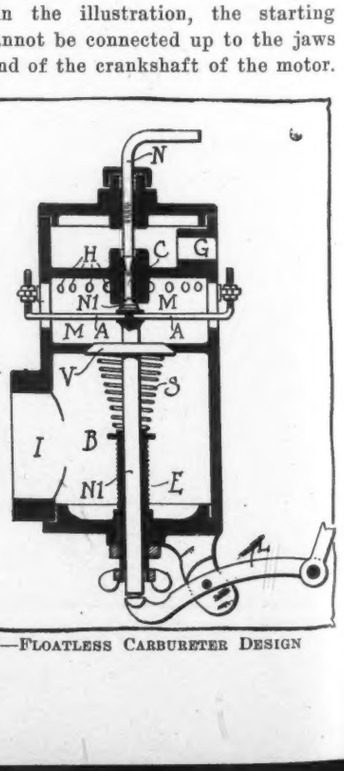


FIG. 4—FLOATLESS CARBURETER DESIGN

The Motor Car Repair Shop

Hints for the Amateur

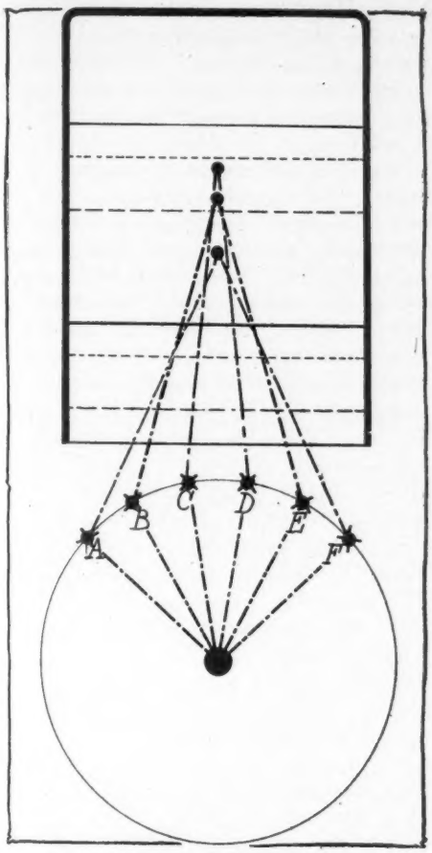


FIG. 1—RANGE OF SPARK CONTROL

IN Fig. 1, a diagram is shown which is intended to indicate the range of spark advance and retard, representing different positions of a crankshaft, and the relation of the piston in the cylinder at these different positions. Referring to this diagram-if a motor is running at an extremely high rate of speed, the spark might be advanced so as to occur in the cylinder when the throw of the crankshaft is ascending and at the point A, thus combustion might be complete or so near complete by the time the throw reached the point D, that a very strong pressure would be exerted upon the piston, which is as it should be. If the motor were being subjected to an extremely hard pull as in ascending a hill on high gear, so that its speed is considerably reduced, and ignition were to take place at A, combustion might be complete at B or C, and the pressure or power-impulse on the piston head would tend to turn the crankshaft in a reverse direction.

If the car were traveling at a very low speed or if there were not sufficient momentum in the flywheel or the car itself, the motor would be stalled, or killed as the saying goes. Of course if the car or motor were traveling at a sufficiently high rate of speed to carry the shaft and piston over this dead center a large percentage of the power would be applied in the right direction, but considerable would be lost, there would be what is known as an ignition knock, and the strain on the bearings would be quite severe. On the other hand, if the motor has been slowed down considerably under a hard pull and the ignition is retarded so as to occur at about C or D, combustion might be complete at about E or F, or perhaps even a little farther down where the leverage on the crankshaft is greatest, and thus the greatest amount of the downward pressure on the piston is utilized. It must be remembered that the greatest power is dependent upon the momentum or torque of the flywheel. A motor always should be run with the spark advanced as far as possible without causing the motor to knock or lose power, and a motor will overheat if caused to run for any great length of time with a retarded spark.

Spark Control and Overheating

As few motorists really understand just how the power efficiency of a motor is affected by the spark-timing which is generally under the control of the operator, the following may be of interest. When a combustible mixture has been compressed in a cylinder by the rising piston and the spark occurs, a very small portion of the mixture in the immediate vicinity of the spark is ignited; and if the mixture is of the proper proportions and suitably compressed, the flame propagation throughout the entire combustion-chamber will be rapid. This is as it should be. When combustion takes place intensely heated gases are formed which in their effort to occupy a larger volume of space, exert great pressure on the walls of the combustion chamber and upon the piston head. As a gas or gaseous mixture is compressed it becomes heated, and the greater the pressure the greater the heat. If a mixture is of proper proportions, the greater the pressure the more readily will it ignite and the greater the speed of flame-propagation or combustion. On the other hand, as the pressure of a combustible mixture is reduced, it loses its heat, and its speed of ignition and combustion is also reduced. Thus it must be understood that to get the utmost efficiency out of a combustible charge, it must be ignited at or near the point of maximum compression.

Several interesting conditions may be shown with the diagrams of Fig. 2, which like Fig. 1, represents different positions of the crankshaft, and of the pistons in the cylinders. Let it be assumed that a car is being driven at a speed of about 30 miles per hour, and that the motor is necessarily turning over at a speed of about 800 revolutions per minute, the spark lever advanced so the spark occurs when the pistons are ascending as at G. Ignition, we will assume, is complete at H, and combustion at I, at which point the maximum pressure of the expanding gases is being exerted. Under these conditions, the motor runs smoothly and cool. Now by retarding the spark and advancing the throttle levers, it is found that the speed of 30 miles an hour still can be maintained. The motor is generating the same amount of power, but with the spark retarded and the throttle advanced; but after a 30 minutes running the radiator begins to steam and we see that the motor is overheated. What is the cause? It is this. The spark is retarded so that now it occurs when the piston is as at I, compression is already reduced so that ignition is slower and is not complete until the pistons are at J, and combustion is still incomplete at K. The explosive mixture is now richer in fuel so that more heat is given off than under the first mentioned condition, therefore, the expansive force is greater than before, so that the speed of the motor is the same, but note the wall surface of the cylinder at K which now is exposed to this more intense heat. The water in the jackets not only has to take care of the heat absorbed by the walls of the combustion chamber, but also of an excessive amount absorbed by the cylinder walls.

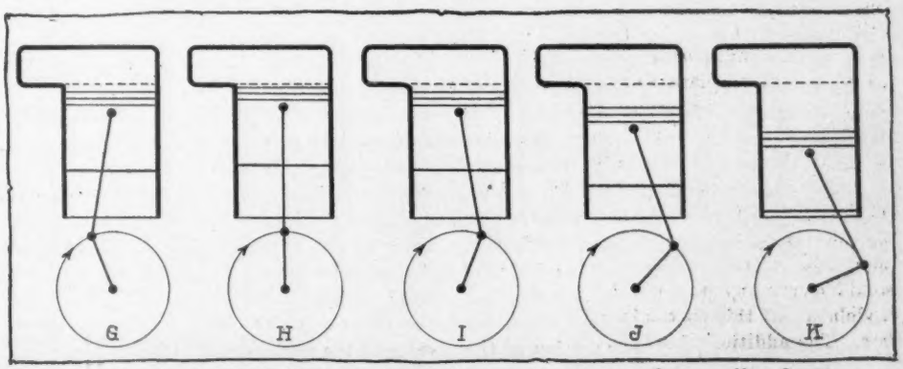


FIG. 2—DIAGRAMS SHOWING WHEN SPARKS SHOULD AND SHOULD NOT OCCUR

Among the Makers and Dealers

BRANCH in Detroit—The N. Z. Graves Co. has established a branch at 57 East Woobridge street, Detroit, which is in charge of A. I. Stevens. The company makes baking varnish and enamel for fenders.

Doubles Its Capital—The Ohio Electric Car Co., of Cleveland, O., has doubled its capital, increasing its stock from $75,000 to $150,000. The concern manufactures an electric car at the Milburn Wagon Co. plant, and the increase is intended to furnish a larger working capital so that business can be done on a bigger scale. It is backed by some of the most prominent capitalists in the city. A. M. Chesbrough is president, R. E. Lee vice-president and F. D. Suydam secretary.

Truck Plant for Indianapolis—Another motor car plant will be located in Indianapolis soon, the Mais Motor Truck Co., now located at Peru, having decided to move to that city. As a preliminary step, the company was reorganized last week and articles of incorporation filed with the secretary of state, showing a capitalization of $500,000. Among those interested in the reorganized company are Alfred Markham, president of the Indianapolis Motor Car Co.; A. F. Mais, designer of the truck; Emory W. Spencer, who will be manager of the Mais company, and Charles Fisher.

Rubber Deal Pending—Plans are under way which may result in the combination of the Rutherford Rubber Co, under the name of the American Motors Co., with a capital of $5,000,000, half 7 per cent cumulative participating preferred and half common stock. The stock of the rubber company will take up $600,000 of the holding concern's shares and of the $4,400,000 balance, part will be absorbed in the constituent companies and a portion of the preferred will be sold at par. The officers of the rubber company are A. C. Wescott, president; Spencer Welton, vice-president; Joseph A. Miller, treasurer.

Pierce Tail Lamp—In order to allow owners of its cars to comply strictly with both the letter and spirit of the law as exemplified by the Callan bill in New York the Pierce-Arrow Motor Car Co., of Buffalo, has added to the regular equipment of its cars a sixth lamp for the sole purpose of number plate illumination. This lamp is of peculiar construction. It is like a tube cut in half—about 6 inches long and 1½ inches in diameter. It is electrically lighted and can be turned on or off by the switch that operates the side and rear lights. When it is on its rays cover the entire number in a way that would insure any owner against arrest for a violation of this particular section of the law. The addition of this lamp makes six

STORE OF M. T. POLLOCK AT WASHINGTON, D. C.

that are included in the Pierce-Arrow equipment without counting the small one that lights the oil gauge at night.

Moving From El Reno—The Pioneer Car Mfg. Co. has completed arrangements to move its factory from El Reno to Oklahoma City. It has a new organization, an increased capital of $50,000. Its 1911 car is a four-cylinder 30-horsepower five-passenger car with 36-inch wheels and 130-inch wheelbase.

Changes in Indianapolis—There have been a number of changes in motor car circles in Indianapolis in the last few days. R. H. Schmittdiel, until recently of New Orleans, has been appointed manager of the sales branch of the Regal Motor Car Co. The Oakland Motor Car Co. has opened an Indiana sales branch at 312 North Delaware street, succeeding the Oakland agency held by the State Automobile Co. for 2 years. The agency for the Halladay has been taken by the Peck Motor Car Co. in addition to the Great Western.

Franklin Conference—Coming from all parts of the country, from the Atlantic to the Pacific coast, district managers of the Franklin Automobile Co., have just met at the Franklin factory at Syracuse, N. Y., to formulate plans for their 1911 campaign. Business and pleasure were combined, numerous excursion trips in Franklin motor cars being taken to points of interest and business sessions being held during 4 days. An announcement of the new body and hood design of the Franklin for 1911 was the feature of the business session, exhibitions of the various models being given and demonstrations on the road made. A demonstration of road efficiency was given with a 1911 Franklin motor truck. This, loaded to its capacity, was driven over rough roads, up steep hills and subjected to the most arduous tests that could be devised.

Will Use Shaft-Drive—Beginning with the 1911 season, the Empire Motor Car Co. will use shaft instead of chain-drive in its construction, the plant having been changed after 6 weeks' work to meet the change in construction. The company, during 1911, will manufacture one model, a two-passenger 20-horsepower roadster, swung low and of racy appearance.

Matheson Changes—With the removal of the main selling agency of the Matheson Motor Car Co. from New York to the factory at Wilkes-Barre, Pa., where C. W. Matheson is in charge, the New York line of Matheson cars at 1886-88 Broadway, becomes a distributing branch with George H. Duck in charge as sales-manager, and D. C. MacKay as the head of the accounting department.

Another for Louisville—Following the statement made a few weeks ago by Berton B. Bales, that the American Automobile Co., of which he is the president, would make the Jonz motor cars in Louisville, Ky., Robert C. Morris, announces that a new concern will manufacture the Stuyvesant car in Louisville if present plans are carried out. The company is to be incorporated for $500,000 and local capitalists are being asked to subscribe to this stock. It is intended to turn out about 150 cars the first year.

Rubber Plants Growing—The Diamond Rubber Co. and the Alkali Co., of Akron, have closed options on all of the property on the north side of Bartges street, extending from the canal east, covering several hundred acres. This means that these companies will extend their plans which are located in that part of Akron. Fully thirty pieces of property were secured in the options and the workmen are now busy moving several of the dwelling houses from the newly-acquired land upon which the new factories will be built. The Alkali Rubber Co. is now erecting a mammoth building near the canal, just north of Bartges street. The Diamond Rubber Co. already has started several large additions and others are being planned. John McQuire, formerly connected with the B. F. Goodrich Co., has been elected president of the Republican company, of Youngstown. He succeeds Warner Arms, who recently died. The Buckeye Rubber Co., of Akron, has about completed a new building, 231 feet long and 60 feet wide, which will be used

for the pneumatic tire department. It will triple the capacity of the plant which is located in East Akron. In 15 years the Diamond Rubber Co. has grown from a corporation of $50,000 capital to one of $10,000,000.

Convention of Ajax Managers—The second annual convention of the branch managers of the Ajax-Grieb Co., held at the factories at Trenton, N. J., was a noteworthy success in every particular. A set program of subjects sent out to the different managers long enough in advance to allow mature deliberation on their part was taken up at each day's session. Reports from every quarter indicate a steady growth in the demand for Ajax products.

Workmen Are Returning—A large number of workmen who left Racine, Wis., following the disastrous fire of December 12, 1909, which destroyed the plant of the Racine Mfg. Co., one of the largest builders of motor car bodies in America, are returning because of shutdowns and slack times in other motor car centers. Most of them went to Michigan. All who have returned are being given employment at Racine, because of the rush of work in the Wisconsin city.

Franklin Picnic—The employes of the H. H. Franklin Mfg. Co., of Syracuse, held the largest attended annual outing they ever have given last Saturday. The picnic was held at Long Branch, near Syracuse, and a large program of sports was given. The Franklin baseball nine, one of the best amateur teams in this section, beat the Monarch typewriter men 6 to 5 in a ten-inning game. There were motor cycle races and running and jumping matches for cash prizes.

Kansas City Changes—The summer halt in the motor trade in the southwest could have only one effect in Kansas City of course—the inspiration of many changes in the line-up. These are a few of the shifts: The Peerless went to the Fletcher Cowherd, Jr., Automobile Co.; the Chalmers to the Chalmers Motor Co. of Missouri; the Hudson to the Boyd Automobile Co.; the Stoddard-Dayton to the Midland Motor Co.; the Paige-Detroit to the Velie Motor Co.; the Abbott-Detroit to the Abbott Motor Co.; the Grabowsky truck to the P-H Motor Co.; the Gleason truck to the Imperial Motor Car Co., and the Parry to the Lockwood-Shaw Motor Co. W. S. Hathaway, for the past 3 years, district sales manager of the Maxwell-Briscoe Motor Co., has been elevated to the position of western supervisor of the United States Motor Co., with sales managership authority over all branches west of the Mississippi river. St. Louis and Denver have been added to the territory of R. H. Collins, southwestern manager of the Buick Motor Co., who formerly had this territory: Kansas, Nebraska, Oklahoma, Arkansas and New Mexico. Continental tires are now sold from a factory branch in Kansas City at 1815 Grand avenue, in charge of L. E. Brown. Next door, at 1813 Grand avenue, the Long-Hershfield Rubber Co., just organized, has opened a Swinehart tire agency.

Inventory Taken at Newcastle—The plant of the Maxwell-Briscoe Motor Co. at Newcastle, Ind., closed August 1 for 2 weeks for inventory and repairs. During the time the plant was closed the company's baseball team made a tour of Ohio, winning a number of games. The baseball club is one of the fastest amateur organizations of its kind in Indiana.

Hearing Postponed—Arguments on the motion of the defendants in the $500,000 conspiracy suit brought by the Velie Motor Vehicle Co., requiring the plaintiff to make the complaint more definite, will be heard by Judge Halsey in the circuit court for Milwaukee county, Wisconsin, on August 30, being postponed from August 1. Four of the twenty-six original defendants have been held subject to the complaint, as follows: The Locomobile Co. of America, the Chalmers Motor Co., Pope Mfg. Co. and Pierce-Arrow Motor Co.

Will Make Electrics—The Argo Electric Vehicle Co. has been organized at Saginaw, Mich., to manufacture runabouts and coupes. The company, it is announced, will take over the Sommers Brothers' match factory and will have 200 men at work in 30 days. A number of Saginaw's leading men are behind the venture. Among them are: Benton Hanchett, Theodore Huss, Fred Buck and Otto Schupp. The Marquette Motor Co. is completing a large plant in the same city that will give employment to 500 men. A selling company has been formed here to handle electric trucks exclusively. It is known as the Electric Truck Co. and has excellent backing. Alexander Dow, general manager of the Edison Illuminating Co., is president; S. M. Sheridan, vice-president; S. C. Mumford, treasurer; J. W. Brennan, secretary. The company will operate a garage in connection with its salesroom.

Buys More Land—The Longdin & Brugger Co., of Fond du Lac, Wis., manufacturer of motor car tops, dashes and other novelties and accessories, has purchased a large tract of land adjoining its present plant. The concern has outgrown these quarters, and in anticipation of a big year is planning to make additions. Officials of the company say nothing in the line of new construction work will be done before the spring of 1911, however.

Leases Temporary Plant—At a meeting of the directorate of the Badger Four-Wheel Drive Auto Co., of Clintonville, Wis., recently organized, it was decided to lease the machine shops of Besserdich & Zachow, inventors of the four-wheel drive to be used in the new car, until a new plant can be erected. The company has received several good orders and deemed it inadvisable to wait until new works can be erected. The production of cars was begun on August 1.

Portable Garage Built—Moeller Brothers, of Baraboo, Wis., carriage makers, have just completed work on a portable garage, the like of which is probably nowhere in existence. It was built upon special order from Otto Ringling, one of the Ringling brothers, circus men, whose home is at Baraboo, Wis. The garage is on wheels, with room for Mr. Ringling's touring car. It is drawn on a special flat car and in this way transported from city to city. Mr. Ringling has been the owner of several cars for some years, but until this year has been forced to leave them at home while traveling with the circus. Last spring he took a car with him, loading it on a flat car, but the long railroad trips in all sorts of weather were not conductive to longevity in the car.

GARAGE OF THE C. F. JACKSON COMPANY AT NORWALK, O.

Brief Business

EDGEWATER, N. J.—The Guarantee Rubber Tire Co. has been incorporated with a capital of $10,000.

Woodland, Cal.—The new National garage, of which Nicholas W. Curson is proprietor, is finished. It is 166 by 50, brick, fireproof.

St. Louis, Mo.—The agency of St. Louis and territory for Continental tires has been transferred to the Phoenix Auto Supply Co.

Los Angeles, Cal.—The Consolidated Motor Sales Co., agent for the Marathon, has moved into the new garage and salesroom at 1216 South Olive street.

Deming, N. M.—Knowles & Rowland are building a machine shop and garage, 44 by 84, two stories high, equipped with all modern appliances.

St. Louis, Mo.—Morrell W. Doyle has resigned from the accessory department of the Maxwell-Briscoe company and has taken charge of the management of the St. Louis Top Co.

St. Louis, Mo.—The St. Louis agency of the Stevens-Duryea car has passed into the hands of the Chicago Motor Car Co., which has just been organized. The new concern is located at 5141-43 Delmar boulevard.

St. Louis, Mo.—George Weber, of the Weber Implement Co., has announced the acquirement of the agency in St. Louis for the Lozier car. The Weber company in addition will continue to handle the Mitchell and the Rapid truck.

Indianapolis, Ind.—The Prest-O-Lite Co. has obtained a temporary injunction against Orion K. Stuart, of Indianapolis, restraining the latter from refilling Prest-O-Lite tanks. Some time ago the Prest-O-Lite Co. and the Commercial Acetylene Co. of New Jersey brought suit in the United States circuit court in Indianapolis charging Stuart with infringment of patents. This case has not yet been heard.

St. Louis, Mo.—Announcement is made that the Phillips Automobile Co. will have the agency of the Hudson in St. Louis, formerly held by the Park Automobile Co. In addition to the Hudson, the Phillips company will handle the Babcock electric. An addition to the salesrooms is being constructed, which will be equipped with a complete repair shop. A part of the new biulding will be used as an electric garage, with modern appliances and charging plant.

Atlanta, Ga.—J. E. Levi & Co., who have until recently handled the Reo and Premier in this territory, have been succeeded by the Reo Motor Distributing Co. This organization has a larger territory, handling the Reo in all of Georgia and part of Alabama. The officers of the new company are H. E. F. Jones, president; R. C. Smith, vice-president; G. F. Tumlin, secretary and treasurer. W. J. Howard, formerly agent for the Mitchell cars, has given up that line and taken the Parry. He has also taken over the garage on Auburn avenue formerly occupied by the Maxwell-Briscoe Southern Co.

Philadelphia, Pa.—The Brown Auto Top Co., of 437 North Broad street, has moved into its new salesrooms at 1347 Noble street.

San Antonio, Tex.—The Texas Motor Car Co. has moved into its new salesrooms at the corner of San Pedro avenue and Evergreen street. The company handles the Packard.

Moline, Ill.—E. W. Nicholson, formerly with the Midland Motor Co., of Moline, Ill., has accepted a position in the sales department of the H. H. Franklin Mfg. Co., Syracuse, N. Y.

Shelbyville, Ind.—The Clark Motor Car Co. has closed an agency contract with the Stephens-Cropley Co., of 1326 Michigan avenue, Chicago, for the states of Illinois and Wisconsin.

Atlanta, Ga.—The new Atlanta branch of the E-M-F Co. has been formally opened at 45 Auburn avenue, with G. W. Hanson in charge. The branch carries the E-M-F and Flanders, and also a complete line of parts.

Rochester, N. Y.—A permit has been granted to James Cunningham Son & Co. for the construction of a five-story brick building on Litchfield street, 120 by 127 by 64, for the manufacture of motor cars. It will cost about $50,000.

Toledo, O.—A. B. Hansen has joined the Chalmers Motor Co. as special representative in Ohio, Indiana, Illinois, Kentucky, Missouri, Wisconsin, Minnesota and Michigan. For the past 2 years he has been engaged in the local field.

Chicago—A. A. Ainsworth has succeeded Joseph F. Gunther as manager of the local Apperson branch. Although at present located at 1240 Michigan avenue, the branch will move into its new home at Indiana avenue and Thirty-fifth street.

Pond Creek, Okla.—The Thomas Motor Car Polish Co. has been organized for the purpose of manufacturing a metal polish to be used strictly on the brass parts of a motor car; F. J. Gentry, president; William Franch, vice-president; R. W. Thomas, secretary; M. L. Thomas, treasurer and general manager. Offices of the company will be at Enid and Pond Creek.

St. Louis, Mo.—The Mississippi Valley Trust Co. has completed plans for the construction of a garage building on the vacated site of the Keyes & Marshall brothers' livery stables, at Delmar and Taylor avenues. The Columbia Taxi-cab Co. has taken the west 76 feet. The building will be 126 by 200 feet, with a machine shop, 130 by 30 feet, thus affording a total floor space of about 30,000 square feet. The building will be of brick and steel, with white enamel and brick front

Boston, Mass.—The G. E. and H. J. Habich Co. has taken on the agency for the Hart-Kraft motor wagons and light delivery wagons and with it will handle the Cole.

Toledo, O.—The Lewis Electric Welding and Mfg. Co., of Toledo, is making extensive additions to its present plant. It is the only commercial electric welding plant in the city.

Toledo, O.—The Toledo Timetest Tire Co., of Toledo, has been incorporated with a capital of $10,000 to manufacture and sell a patented tire inflater. The incorporators are Eugene H. Winkworth, Frank W. Coughling, Frank R. Miller, Harry W. Iserberg and Charles Weinrich.

Detroit, Mich.—The new garage of the Detroit Motor Sales Co., to be erected at the corner of Woodward and Canfield, will be 150 by 50, of pressed brick and concrete construction. The interior will have a salesroom 50 by 50, finished in paneling of appropriate woods and will have two private offices. A complete machine shop will be installed in the garage.

St. Louis, Mo.—M. M. Baker & Co., of Peoria, Ill., have leased a building at 2007-9 Locust street, for the establishment of a St. Louis house from which will be handled the Stoddard-Dayton and Courier cars. The building is 50 by 150 feet, and three stories high. The salesroom is to be 100 feet deep, and a repair department is to be installed for everything from tops

Recent Incorporations

New York—The Taxi-Cab Co., capital stock $2,500,000; to operate taxicabs, livery and motor service; directors, Emil Kaestner, George B. Handy, Manuel Fernandes, Frederick Reis and Robert Gerbracht, Jr.

New York—United Motors Co., capital stock $5,000,000; incorporators, C. A. Bates, J. P. Geerlofs and W. O. Cook.

New York—Van Dyke Motor Car Co., capital stock $1,000,000; to deal in motor cars and accessories.

New York—American Taximeter Co., capital stock $200,000; incorporated to lease taximeters.

New York—Dr. Stearn's Invalid Auto Co., capital stock $50,000; to manufacture vehicles and conveyances for invalids; incorporators, H. H. Stearns, M. T. Shier and C. H. Sanborn.

Cincinnati, O.—J. S. Stevens Auto Co., capital stock $5,000; incorporators, J. S. and F. G. Stevens and others.

Nashville, Tenn.—Coal Creek Motor Co., capital stock $10,000; to conduct a repair shop, deal in second-hand motor cars and general delivery business, also hire and use motor cars for public conveyance; incorporators, G. W. Card, E. H. Ford, H. C. Goins, L. A. Haun and Wayne Longmire.

Chicago—Peerless Motor Co. of Illinois, capital stock $60,000; to manufacture motor cars and accessories; incorporators, L. E. Hart, J. Smith and D. T. McNabb.

Buffalo, N. Y.—International League Automobile Tire and Rubber Co., capital stock $1,000,000; to manufacture motor cars and rubber; incorporators, A. C. Bidwell, W. Preiss and C. H. Bowe.

Announcements

to tires. Contracts for 250 cars have been made. Ben E. Swingley has been given a place with the new agency.

St. Louis, Mo.—The Park Automobile Co. has moved into new quarters at Delmar and Clarendon avenues.

Columbia, S. C.—A charter has been granted to the Columbia Auto Co. with a capital of $5,000. The petitioners are W. W. Pearce and G. R. McNeill.

Portland, Ore.—Fire which started in the garage of the Brush Automobile Co. for a time threatened the row on Alder street, but was confined to the garage of the Brush company, which was seriously damaged. William Wilzinski, manager, estimates the loss at $12,000.

Indianapolis, Ind.—E. W. Steinhart and Walter M. Fisher have organized the Cadillac Automobile Co. of Indiana for the purpose of distributing the Cadillac in that state. The company has established quarters at 504 North Capitol avenue. The Peck Motor Car Co., which has distributed the Cadillac for some time, has become Indiana distributor for the Great Western.

St. Louis, Mo.—Two new car factories are assured for St. Louis. In addition to the Moon plant, already under course of construction, the Victor Automobile Mfg. Co. has completed arrangements for the erection of a $100,000 factory at the corner of Boyle and Papin street. The new building will be fireproof. The construction is to be of enforced steel and concrete and the building will occupy nearly a whole block. The new building will give the Victor company twice its present capacity for next year's output. The new factory will employ 250 mechanics, in addition to testers, helpers, etc.

Greensburg, Pa.—The Greensburg Automobile Co. has put Charles R. Walters in charge of its sales department. More recently Mr. Walters was manager of the Standard garage at Youngstown, O.

Columbus, Miss.—The Wildermuth Bending Co. will erect three mills here to cost $50,000 and will manufacture hubs and spokes for motor cars. The company has purchased a 1,000-acre tract and will erect two saw mills.

Detroit, Mich.—Announcement is made that the Small Motor Car Co. is to be incorporated shortly with a capital of $200,000 for the manufacture of an underslung runabout car with a 25-horsepower engine. It is planned to manufacture the car in Detroit and Winnipeg. John S. Small is the man chiefly interested.

Cleveland, O.—The Cleveland Motor Truck Mfg. Co., of Cleveland, O., has been incorporated with a capital of $250,000 to manufacture, sell and convert motor trucks and other vehicles. The incorporators are W. B. Stewart, G. W. Cottrell, H. E. French, P. C. Van Cleef and Adrian Wychgel.

San Diego, Cal.—The contract has been let for the new garage and salesroom for the Campbell Machine Co. on First, between D and C streets. The new structure will be built of brick and concrete, 50 by 200. The company is agent for the Kissel and Stevens-Duryea.

Boston, Mass.—The W. C. Marsh Motor Co. has been organized to act as selling agent for the new Paige-Detroit. The concern closed contracts with the Detroit manufacturers whereby the entire eastern half of Massachusetts, including Worcester county, and Rhode Island will be represented exclusively by the Marsh company.

Indianapolis, Ind.—The Marion county superior court at Indianapolis has authorized the Security Trust Co., receiver for the Indiana Motor and Mfg. Co., to manufacture 150 Continental cars and to sell nine cars that are already completed. The receiver has also been instructed to borrow not to exceed $25,000 for the purpose of building the cars.

Beaver Falls, Pa.—The Beaver Valley Auto Delivery Co. has been organized by a number of Beaver Falls men to take care of the delivery business between Beaver Falls, New Brighton and the lower towns of the Ohio River valley. The concern will have offices in Beaver Falls with telephone connections to all river towns. A delivery car has been ordered for service August 15, and this will make two round trips daily between Rochester and New Brighton and Beaver Falls and also two trips a week to College Hill, Riverview, Patterson Heights and Ambridge, Pa.

Washington, D. C.—The White agency has been placed with the Imperial garage, 1214 V street, N. W.

Minneapolis, Minn.—George H. Payne has opened offices at 1202 Hennepin avenue for the distribution of spark plugs and steam vulcanizers. It is his intention to add other lines soon.

Pasadena, Cal.—Work is progressing in a satisfactory manner on the new $8,000 garage which Lewis J. Hampton, local agent of the Ford, is building on North Marengo avenue and which he expects to occupy about the middle of August.

Minneapolis, Minn.—A new factory for the manufacture of Stroud carbureters has been installed in the building owned by the Electric Vehicle Co. Work has been started on orders already placed. Mr. Stroud soon will leave for the east for the purpose of demonstrating the merits of the device and to close for distributing rights.

Philadelphia, Pa.—The Bartlett Garage Co. has bought the property of the William A. Porter estate, bounded by Market, Twenty-first, Commerce and Capitol streets, 220 by 190, for $400,000. The estate has contributed $50,000 toward the erection of the $115,000 garage and stone building on the Market street front, work upon which has been begun.

Perth Amboy, N. J.—Plans have been completed for the opening of a garage in the Jefferson market building in New Brunswick avenue by the Central Jersey Garage Co., of which John C. Donehue is president. The company has secured the Middlesex county agency for the Cole 30, and also is interested in a commercial car suitable for delivery purposes. The Suburban Bus Co. plans to take over a section of the new garage for storing its big cars.

Detroit, Mich.—The Detroit United Railway has moved into its new Woodward avenue barns in Highland Park, and the Cadillac Motor Car Co. has taken possession of the old barns at Woodward avenue and Amsterdam street. The company purchased this property several months ago and has had possession of one-half the barns for some time. The work of converting the portion just vacated into a building suitable for motor car purposes is progressing rapidly.

St. Louis, Mo.—Announcement is made of the installation in St. Louis of a branch house by the E-M-F. A location now is being sought on Twelfth street for a salesroom and a big storage building already has been engaged for a long term in the northwest portion of the city. At the latter place wholesale stocks of E-M-F and Flanders cars will be carried. T. L. Hausmann, late with the New York Chalmers company, has been appointed manager of the St. Louis branch.

Recent Incorporations

Buffalo, N. Y.—Overland-Buffalo Co., capital stock $25,000; to manufacture and deal in motor cars and supplies; incorporators, H. B. Smith, G. C. Smith and P. S. Citerley.

Chicago—Tansill Motor Service Co., capital stock $1,000; to conduct general motor car business; incorporators, Robert W. Tansill, Mary E. Tansill and Charles M. Happ.

Rome, N. Y.—Stevens Mfg. Co., capital stock $50,000; to make and sell carbureters, motor and motor vehicle devices, and motor car accessories; incorporators, Samuel B. Stevens, Thomas H. Wetzel, John Lurie, Percy J. Dasey and C. Arthur Benjamin.

Schenectady, N. Y.—Warren-Detroit Distributing Co., capital stock $1,000; to deal in motor cars; directors, Hector A. Bristol, George G. Schieffelin and Henry R. Gifford.

Millbrook, N. Y.—Cab and Taxi Co. of New York, capital stock $2,500,000; to conduct livery and motor car service; incorporators, T. Faber, J. J. Sullivan and E. E. Von Pein.

Saratoga, N. Y.—Northern New York Carhardt Automobile Sales Co., capital stock $10,000; directors, Wharton Meehan, William M. Gage and James M. Gage.

Jersey City, N. J.—Pope Motor Co., capital stock $125,000; to manufacture motor cars; incorporators, Frank Koch, Willard C. Fisk and C. E. Fisk.

Jersey City, N. J.—Madison Auto Co., capital stock $25,000; to manufacture motor cars and trucks; incorporators, W. W. Stewart, W. S. Rowland and C. W. Grant.

Tupper Lake, N. J.—Cole Automobile Sleigh Co., capital stock $15,000; directors, Michael Kennedy, Charles H. Marsha and Theodore Cote.

Legal Lights and Side Lights

DELAWARE STOPS SCORCHING

THE levy court of New Castle county, Delaware, has just paid $100 to the Delaware Automobile Association in return for the latter's services in enforcing the motor laws on the road of the county. Several months ago the association offered to perform this service for the nominal consideration of $150 for the season, and the work has been well done. As a result of the vigilance and activity of the organization, there is comparatively little speeding and very few accidents resulting from violations of the law. When it started the work the association appointed several officers, partly at the expense of the county. The officers were known only to two or three officials of the association. They watch on measured courses on different roads, known only to themselves, and the numbers of all violators are taken. For the first and second offenses cautionary notices are sent, but the third offense results in a prosecution. There have been a few prosecutions, though the warning notices have been sufficient in most cases. The scheme has worked to the satisfaction of all.

MARYLAND DROPS BARS

Papers have finally been signed by Governors Crothers and Stuart, f Maryland and Pennsylvania, respectively, establishing reciprocal relations between the two states. Arrangements had been made but the final signatures have just been made. By this reciprocal arrangement, motorists of Pennsylvania may use the highways of Maryland for periods of 10 days without getting a Maryland license, while similar privileges are extended by the state of Pennsylvania to the Maryland motorists. As many motorists of Baltimore have asked the Automobile Club of Maryland concerning the reciprocal relations between Maryland and other states in the union, Secretary H. M. Luzius has compiled a neat list. This list shows at a glance all the details regarding the laws of other states pertaining to non-resident motorists, and already is in great demand.

NEW ORLEANS WANTS CHANGE

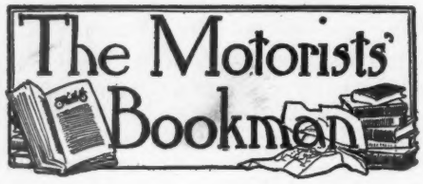
Garland Dupre, acting city attorney, of New Orleans, has been instructed by Mayor Behrman to draft a new motor car ordinance. The mayor recommends, among other things, a new system of licensing. He wants distinct licenses for private and public vehicles, with particularly prominent numbers for the taxicabs, motor buses and livery cars. He is in favor, too, of examinations and licenses for the chauffeurs of vehicles for hire. The agents of the city are backing the mayor in his stand. The ordinance will be presented to the council at an early date for the consideration of the aldermen.

AMENDING HIGHWAY LAWS

State Highway Commissioner J. C. Wonders, of Ohio, is sending out a circular letter asking for suggestions for a system of highway laws, to take the place of all the laws now on the statute books of the state of Ohio. He especially wants suggestions as to what provisions the people believe should be included in the laws. One of the questions asked is: "Do you think that one plan, applicable to all parts of the state, would assist greatly in providing better roads?" Other questions are: "What plan is pursued in your county in building roads? Has it been a success? Do you favor that plan? If not, why not? Do you favor a plan which provides for the construction of roads by county commissioners exclusively? Do you favor a plan whereby the adjacent property owners pay the entive cost of the improvement?"

WASHINGTON FIGHTING

Washington motorists have made the second move in their fight to have the Maryland law declared unconstitutional. Holcombe G. Johnson, secretary in Washington of the National Automobile Association, which is backing the Washington owners, said that steps would be taken immediately to be in readiness to make a demand for refund of taxes already paid by District motorists for Maryland licenses. He said that the taxes should be recovered in the event that the highest court to which the case is taken decides in favor of the motorists of the District of Columbia, but he says his association will not guarantee such a refund.



Fascination of the Alps

It is hunger of some sort that usually impels people to travel. Some go for scientific reasons, some to add to their knowledge of the world, some for health, and some in search of sport. To the mountain lover the Alps appeal with a special thought of pleasure and if his climbing days are not over he is sure, if he lingers in their vicinity, to become imbued with the Alpine fever to learn the "secret of the hills and the treasures of the snow," according to Sir Martin Conway in his book entitled "The Alps." The author says, "Relatively few of the present generation know the Alps. They know a district or two. * * * To know them, like the writer of a climbers' guide, is more than a life work. For the Alps cover a much larger area than most people realize, including the five countries, Italy, France, Switzerland, Bavaria, and Austria." In speaking of the Alps in winter, Sir Martin Conway says: "In the checker-boards of most men's lives, the squares they can allot to the joys of mountain travel are co-incident with summer seasons, knowing them only in the warm weather garb, but the fact is established that the Alps are beautiful in winter. Midwinter moonlight is doubtless one of the great glories that the summer traveler misses." Again he says: "In summer you must climb to the high snow fields to behold the delicate modelling of which snow is capable on a larger scale, but in winter such sights are all around you. Nor must we forget to catalog amongst the greater glories of Alpine winter the snow-laden forests. One day the trees will be burdened down by loads of snow. Another, every sprig and pine-needle will be frosted over by the most delicate incrustration of tiny ice-crystals, natural lacework of surpassing fascination. When the early sun first shines upon such a scene, which night has prepared to be a revelation to the day, so magnificent a vision is provided that even the dullest perceive something of its beauty and for a moment forget the trifles of their life." The beauties of the spring with its attendant avalanches, the summer and its "exultant greens with the star-flowers spangled amongst them," the autumn glorious with its scarlets and browns, the mountain peaks, the passes, the pastures, and the glaciers are all most interestingly and graphically told, but, from the author's viewpoint, it is the call of the "treasures of the snow" that make the Alpine climber. The illustrations by A. D. M'Cormick depict the mountains in their many moods, and the reader will not fail to realize that the artist, too, is a lover of the snow and the hills. The publishers are the Macmillan Co., New York, and A. & C. Black, London.

"Complete Tips"

"Complete Hints and Tips for Automobilists" in its fourth edition has been thoroughly revised, enlarged, and brought up-to-date. Accessories, accumulators, carbureters, brakes and steering, carriage work, clutches, driving lubrication, ignition, overhauling—these constitute some of the many subjects covered in this little volume, which is profusely illustrated. Iliffe & Sons, Ltd., London, are the publishers.